MPPSC 2026

ASSISTANT TOWN PLANNER

Book 2 of 2

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Assistant Town Planner

Section – B

TOWN PLANNING

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Assistant Town Planner Exam-2026

Section-'B'

Syllabus – Town Planning

UNIT-I **Planning Theory, History, Techniques & Systems**

- **Evolution and Concepts of Planning**

  Evolution of planning from ancient to contemporary period. Development of modern planning practice. Modernism, Post-modernism and New Urbanism. Sustainable and inclusive planning approaches. Changing paradigms of urban and regional planning.

- **Planning Data, Surveys and Analytical Techniques**

  Spatial data collection methods. Survey techniques in planning. Spatial analysis and mapping techniques. Basics of planning data interpretation. Use of digital tools in spatial analysis.

- **Planning Process and Forecasting Methods**

  Demographic and socio-economic forecasting. Land use analysis and projections. Stages of plan preparation (concept to implementation). Planning evaluation and monitoring. Integration of planning data in decision making

- **Planning Systems and Hierarchy of Plans**

  URDPFI guidelines and planning hierarchy. National, regional and sub-regional plans. Master plan, development plan and zonal plan. Local area plans and town planning schemes. Planning for large urban agglomerations.

- **Regional and Environmental Planning Context**

  Regional planning concepts in Madhya Pradesh. Planning for tribal and backward regions. Metropolitan and rural planning frameworks. River basin planning and watershed management. Lake and wetland conservation planning.

UNIT -II **Infrastructure, Housing & Urban Mobility**

- **Urban Infrastructure Systems**

  Water supply planning and distribution systems. Sewerage and drainage infrastructure. Solid waste management systems. Swachh Bharat Mission initiatives. Power and communication infrastructure.

- **Social Infrastructure and Urban Services**

  Health infrastructure planning. Educational infrastructure planning. Community facilities and recreational spaces. Accessibility and service distribution. Infrastructure planning standards.

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- **Housing Development and Policies**

  Housing typologies and development patterns. Affordable housing concepts and strategies. Slum upgrading and rehabilitation. Housing policies and implementation. PMAY implementation in Madhya Pradesh

- **Urban Transport and Mobility Planning**

  Urban transport systems and networks. Public transport planning strategies

  Traffic and transportation management. Non-motorized transport planning (NMT). Parking planning and management.

- **Contemporary Infrastructure Planning Tools**

  Housing and infrastructure schemes in MP. BRTS and public transport systems. Infrastructure assessment techniques. 3D GIS and city digital twins

  BIM–GIS linkage in infrastructure planning.

UNIT -III **Environment, Sustainability & Disaster Planning**

- **Urban Ecology and Environmental Systems**

  Natural systems within urban environments. Urban ecological balance and biodiversity. Environmental management systems. Blue-green infrastructure networks. Environmental sustainability in cities.

- **Environmental and Social Impact Assessment**

  Environmental Impact Assessment (EIA). Social Impact Assessment (SIA).

  Environmental monitoring frameworks. Environmental planning regulations.

  Integration of environmental planning in projects.

- **Sustainable Urban Development**

  Sustainable Development Goals (SDGs). Low carbon and net-zero city concepts. Renewable energy integration in urban areas. Resource efficiency and circular economy. Climate responsive urban planning.

- **Disaster Risk Reduction and Resilience**

  Types of disasters (natural and man-made). Vulnerability and risk assessment methods. Disaster mitigation and preparedness planning. Urban flood management strategies. Resilient infrastructure planning.

- **Disaster Management Framework**

  Disaster management structure in MP. Climate change adaptation strategies

  Urban resilience planning frameworks. Disaster risk governance and policy.

  Green building rating systems (GRIHA, LEED, IGBC, BREEAM).

UNIT -IV **Governance, Economics & Project Implementation**

- **Urban Governance and Institutional Systems**

  Structure of Urban Local Bodies (ULBs). Institutional framework of urban governance. Decentralization and planning administration. Governance structure in MP cities. Institutional coordination in planning projects

- **Participatory and Digital Governance**

  Public participation in planning. Community engagement processes.

  Stakeholder consultation methods. E-governance tools in planning.

  Transparency and accountability mechanisms.

- **Urban Economics and Financial Planning**

  Land economics and land value capture. Urban land market dynamics.

  Cost-benefit analysis of projects. Infrastructure financing models.

  Financial resource mobilization.

- **Project Planning and Appraisal**

  Identification and prioritization of projects. Preparation of Detailed Project Report (DPR). Project feasibility and appraisal. Public-Private Partnership (PPP) models. Risk management in infrastructure projects.

- **Project Implementation and Monitoring**

  Phasing and implementation strategies. Monitoring and evaluation mechanisms

  Funding mechanisms in MP planning projects. Case examples of implemented projects in MP. PM Gati Shakti infrastructure planning initiative.

UNIT -V **Planning Legislation, Policies & Futuristic Approaches**

- **Planning Legislation and Regulatory Framework**

  Evolution of planning laws in India. Planning legislation and regulatory acts. MP Town and Country Planning Act. Development control regulations in MP. Land acquisition and development regulation.

- **Land Development and Management Tools**

  Land pooling and land assembly techniques. Transferable Development Rights (TDR). Land value capture mechanisms. Urban renewal and regeneration strategies.Land management in urban development.

- **National Policies and Urban Missions**

  National Urban Policy Framework. RERA and Real estate Regulations. Housing and urban development policies. AMRUT mission and infrastructure development. National Geospatial Policy 2022.

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- **State Urban Development Programs**

  MP urban development initiatives. CM Urban Infrastructure Development Scheme (CMUIDS). Shyama Prasad Mukherjee Rurban Mission. State. housing policies and programs. Planning reforms in MP

- **Future and Technology Driven Planning**

  Smart cities and digital planning tools. Artificial Intelligence and Big Data in planning. Transit Oriented Development (TOD). Climate responsive planning approaches. Accessibility Mission – Sugamya Bharat Abhiyan.

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CHAPTER 01
Evolution and Concepts of Planning

1. Which of the following is a distinguishing feature of the town planning found in the ancient Indus Valley cities like Mohenjo-daro and Harappa?
(A) Radial street patterns converging at a central religious monument or administrative citadel
(B) Grid-iron street layout, baked brick construction, and advanced drainage systems
(C) Organic, unplanned growth characterized by concentric circular streets and irregular lanes
(D) Dominance of large public squares designated specifically for democratic voting or assembly

2. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): The Roman castrum significantly influenced the town planning of many European cities.
Reason (R): The castrum was a military camp layout based on a strict grid with two main perpendicular streets, the cardo and the decumanus, which provided a logical framework for subsequent civilian settlement expansion.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

3. When analyzing the morphology of medieval European towns, which conceptual framework best explains their physical structure?
(A) Topography-driven organic growth with irregular, defensive street networks
(B) Strict geometric zoning intended for vehicular efficiency and rapid transit
(C) Pre-planned linear urban forms aligned with prevailing wind and trade routes
(D) Polycentric layouts centered entirely around decentralized industrial hubs

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4. Which of the following statements correctly describes the impact of the Industrial Revolution on urban form?
(A) Immediate establishment of greenbelts to contain urban sprawl around factory towns
(B) Unprecedented segregation of social classes through the use of gated communities
(C) Rapid, unregulated urbanization with overcrowded tenements and mixed-use industries
(D) Decentralization of urban populations into low-density rural automotive settlements

5. Match the items in List I with the corresponding items in List II.
List I: Planning Concepts
P. Garden City
Q. City Beautiful
R. Radiant City
S. Neighbourhood Unit
List II: Key Proponents
1. Le Corbusier
2. Clarence Perry
3. Ebenezer Howard
4. Daniel Burnham
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

6. In the context of medieval town structures in Madhya Pradesh, the town of Mandu is best categorized conceptually as:
(A) A modern transit-oriented development centered on regional trade
(B) A modernist planned capital reflecting specific colonial ideologies
(C) A grid-iron cantonment town designed for military administration

(D) A fortified organic settlement adapted to plateau topography

7. The "Garden City" movement, as conceptualized by Ebenezer Howard, is defined as:
(A) A high-density vertical city design surrounded by extensive agricultural land
(B) A self-contained greenbelt community balancing residential and industrial areas
(C) An aesthetic movement focused on planting trees along urban boulevards and centers
(D) A purely residential suburb dependent on a central metropolis for employment

8. Consider the following statements regarding the Neighbourhood Unit concept introduced by Clarence Perry:
1. The unit should be bounded by arterial roads to keep through-traffic out of the residential area.
2. The population size of the unit should be strictly determined by the capacity of a tertiary hospital.
3. An elementary school should be centrally located within the unit.
4. Internal streets should be designed to facilitate fast-moving vehicular traffic.

Which of the above statement(s) is/are correct?
(A) 1 and 2
(B) 1 and 3
(C) 2 and 4
(D) 3 and 4

9. All of the following are characteristic features of the City Beautiful movement, EXCEPT:
(A) Monumental grandeur and civic beautification
(B) Wide, tree-lined boulevards and classical architecture
(C) Creation of grand civic centers to inspire moral and civic virtue
(D) Strict adherence to decentralized, low-density rural living

10. Read the following statements regarding the Radiant City concept and select the correct option.
Statement I: The Radiant City (Ville Radieuse) concept proposed high-density living in towering skyscrapers surrounded by vast open green spaces.
Statement II: The Radiant City model heavily prioritized pedestrian-scaled, low-rise, mixed-use organic development.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

11. Arrange the following urban planning movements/milestones in chronological order of their emergence:
I. Post-WWII New Towns movement
II. Garden City movement
III. City Beautiful movement
IV. New Urbanism
(A) II, III, I, IV
(B) III, II, I, IV
(C) II, I, III, IV
(D) I, II, III, IV

12. A town planner is tasked with designing a new administrative capital using Le Corbusier's principles. Which of the following spatial frameworks would the planner most likely apply?
(A) Mixed-use blocks with informal, winding street patterns and public spaces
(B) Sectoral division with strict separation of living, working, and circulation
(C) Transit-oriented development centered entirely on a single rail station
(D) Dispersed agrarian clusters with minimal centralized infrastructure services

13. Which of the following statements regarding Post-WWII reconstruction planning and New Towns is INCORRECT?
(A) These towns were primarily designed as pure dormitory suburbs without any local employment opportunities.
(B) New Towns were established to decongest major urban centers that were overpopulated and damaged during the war.
(C) The British New Towns Act of 1946 played a foundational role in this movement.
(D) They incorporated self-contained neighborhoods with their own civic and commercial amenities.

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14. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): The planning of Lutyens' Delhi was characterized by grand geometric patterns, wide avenues, and monumental vistas.
Reason (R): The plan was deeply influenced by the organic, unconstrained growth models of traditional Indian medieval cities.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

15. Which of the following pairs correctly matches the Indian city with its core planning philosophy during the post-independence era?
(A) Chandigarh - Traditional Garden City movement principles
(B) Gandhinagar - Classical City Beautiful movement aesthetics
(C) Lavasa - Strict CIAM functionalist zoning regulations
(D) Bhubaneswar - Neighbourhood Unit and grid-iron structure

16. Following the partition of India, several new towns were planned to rehabilitate displaced populations. In analyzing the planning approach for towns like Faridabad and Nilokheri, what was the underlying economic concept?
(A) Exclusive export-processing zoning for international trade
(B) High-density financial district development for corporate growth
(C) Agro-industrial integration and self-help cooperative labor
(D) Transit-oriented metropolitan expansion for suburban commuters

17. Match the items in List I with the corresponding items in List II.
List I: Statutory Frameworks/Concepts
P. Bombay Town Planning Act
Q. Model Town and Country Planning Law
R. URDPFI Guidelines
S. 74th Constitutional Amendment Act
List II: Historical Context
1. Decentralization of urban governance
2. Contemporary spatial planning standards
3. Formulated by TCPO in the 1960s
4. First town planning act in India (1915)
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-1, R-2, S-3
(D) P-1, Q-2, R-3, S-4

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18. What represents the most significant shift from early physical master planning to contemporary integrated planning?
(A) Strict enforcement of single-use zoning laws throughout all districts
(B) Transition from motorized transport to purely pedestrianized networks
(C) Replacement of local municipalities with centralized national boards
(D) Inclusion of socio-economic, environmental, and financial variables

19. Identify the INCORRECT pair regarding the evolution of urban policies in India's Five-Year Plans:
(A) Sixth Five-Year Plan - Introduction of Jawaharlal Nehru National Urban Renewal Mission (JNNURM)
(B) First Five-Year Plan - Focus on rehabilitation of refugees and housing
(C) Third Five-Year Plan - Introduction of Master Plans for major cities
(D) Seventh Five-Year Plan - Recognition of urban poverty and introduction of the National Commission on Urbanisation

20. Consider the following statements regarding the evolution of statutory planning frameworks in India:
1. The preparation of a Master Plan is a statutory obligation under the respective State Town and Country Planning Acts.
2. The 73rd Constitutional Amendment Act mandated the creation of Metropolitan Planning Committees.
3. Development Authorities were created primarily to bypass the financial constraints of local municipal bodies for executing large-scale infrastructure projects.
4. Town Planning Schemes (TPS) are a mechanism for land pooling and readjustment.
Which of the above statement(s) is/are correct?

(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

21. In the context of independent India's urban policy, the concept of "Urban Renewal" in early decades was largely characterized by:
(A) Slum clearance and relocation to urban peripheries
(B) Heritage conservation and adaptive reuse
(C) In-situ slum upgrading with community participation
(D) Provision of transferable development rights to slum dwellers

22. The establishment of Metropolitan Planning Committees (MPCs) addresses which critical conceptual gap in traditional master planning?
(A) Lack of advanced 3D modeling and visualization in architectural design
(B) Failure to implement strict single-use Euclidean zoning in suburbs
(C) Over-reliance on non-motorized transport networks in city centers
(D) Absence of unified planning across fragmented agglomeration jurisdictions

23. Arrange the following institutional developments in India in chronological order of their emergence:
I. Establishment of Town and Country Planning Organization (TCPO)
II. Enactment of the 74th Constitutional Amendment Act
III. Launch of the Smart Cities Mission
IV. Setting up of the National Commission on Urbanisation (Charles Correa)
(A) I, IV, II, III
(B) IV, I, II, III
(C) I, II, IV, III
(D) II, I, III, IV

24. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, which authority is statutorily responsible for the declaration of a "Planning Area" in the state?
(A) The Chief Minister's Office via direct executive order
(B) The local Municipal Corporation through a council vote
(C) The State Government via official gazette notification
(D) The District Collector acting as the primary regional authority

25. Which statement accurately reflects the principles of "Participatory Planning"?
(A) Exclusive reliance on expert planners to finalize the master plan
(B) Top-down approach mandated strictly by central government directives
(C) Replacement of statutory master plans with informal local agreements
(D) Active stakeholder involvement in decision-making and plan formulation

26. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): Modernist planning heavily promoted strict functional zoning in cities.
Reason (R): Modernist planners believed that separating functions like housing, work, recreation, and traffic would create healthier, more efficient, and rational urban environments.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

27. The "Athens Charter" of 1933, a pivotal document in urban planning, primarily advocated for:
(A) Mixed land use and pedestrian-centric streetscapes in dense urban areas
(B) Strict functional segregation into dwelling, recreation, work, and transport
(C) Preservation of medieval street patterns and traditional organic forms
(D) Implementation of transit-oriented development and regional rail networks

28. All of the following were major critiques of Modernist planning by Jane Jacobs, EXCEPT:
(A) Modernist planning destroyed the vital social life of traditional streets.
(B) Short blocks and mixed-use developments hinder urban economic vitality.
(C) Strict single-use zoning leads to sterile,

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unsafe neighborhoods.
(D) "Cataclysmic money" for large-scale urban renewal projects is destructive to community fabric.

29. Match the items in List I with the corresponding items in List II.
List I: Theoretical Paradigms
P. Modernism
Q. Post-modern urbanism
R. New Urbanism
S. Compact City
List II: Core Characteristics
1. High density, mixed use, intensification of built form
2. Traditional Neighborhood Design (TND), walkability
3. Functionalism, universal solutions, CIAM
4. Diversity, historical pastiche, human scale focus
(A) P-3, Q-4, R-2, S-1
(B) P-4, Q-3, R-1, S-2
(C) P-3, Q-2, R-4, S-1
(D) P-1, Q-4, R-2, S-3

30. Read the following statements regarding the Team X group and select the correct option.
Statement I: Team X (Team 10) emerged as a group of architects who strictly defended and propagated the functionalist zoning principles of the early CIAM charters.
Statement II: Team X emphasized human association, street networks as places of social interaction, and criticized the sterile separation of functions proposed by early modernists.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

31. A planner aims to apply New Urbanism principles to a greenfield development in Madhya Pradesh. Which spatial strategy would they most likely implement?
(A) Isolated residential cul-de-sacs feeding into a multi-lane highway
(B) Minimum parking requirement of 3 spaces per unit to encourage car usage
(C) Zoning the entire area strictly for single-family detached residential homes
(D) Interconnected street networks with mixed housing and walkable centers

32. Consider the following statements regarding Transit-Oriented Development (TOD):
1. It promotes high-density, mixed-use development within walking distance of a transit station.
2. It encourages the use of private automobiles by providing extensive surface parking lots around transit hubs.
3. It aims to reduce urban sprawl and decrease greenhouse gas emissions.
4. It relies on the presence of a high-quality public transportation system.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

33. Which of the following statements about the "Charter of the New Urbanism" is INCORRECT?
(A) Restructuring public policy to support diverse and walkable neighborhoods
(B) Promoting sprawling, single-use suburban developments for privacy
(C) Celebrating local history, climate, and building practice through architecture
(D) Addressing urban issues at regional, neighborhood, and block scales

34. Identify the correct pair relating to modern urban design metrics:
(A) Floor Area Ratio (FAR) - The ratio of total open green space to the plot area
(B) Setback regulations - Guidelines dictating the absolute maximum height of a building
(C) Permeability - The measure of a building's total energy consumption per square meter
(D) Walkability Score - Pedestrian accessibility and proximity to urban amenities

35. Arrange the following theoretical urban models in the chronological order of their conceptualization:
I. Howard's Garden City
II. Corbusier's Radiant City

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III. Calthorpe's Transit-Oriented Development
IV. Perry's Neighbourhood Unit
(A) I, IV, II, III
(B) I, II, IV, III
(C) IV, I, II, III
(D) I, III, II, IV

36. In assessing the implementation of the "Compact City" concept, which planning action serves as the most effective application of its principles?
(A) Developing extensive ring roads at the metropolitan edge
(B) Zoning peripheral agricultural land for low-density residential plotted development
(C) Implementing urban growth boundaries coupled with infill development
(D) Relocating central commercial districts to the urban fringe

37. Which of the following best describes the primary objective of the LEED-ND framework?
(A) Integrating smart growth, new urbanism, and green building at neighborhood scales
(B) Certifying individual buildings for interior energy efficiency and water usage
(C) Providing financial subsidies for large-scale low-income housing projects
(D) Dictating aesthetic guidelines for historical facade restoration in heritage districts

38. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): The Brundtland Commission's definition of sustainable development emphasizes intergenerational equity.
Reason (R): It defines sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their own needs.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

39. Identify the INCORRECT pair regarding the United Nations Sustainable Development Goals (SDGs) and their focus areas:
(A) SDG 6 - Clean Water and Sanitation
(B) SDG 11 - Industry, Innovation and Infrastructure
(C) SDG 7 - Affordable and Clean Energy
(D) SDG 13 - Climate Action

40. In the context of Madhya Pradesh, the "Chappan Dukan" area redevelopment project in Indore primarily exemplifies which urban planning concept?
(A) Traditional Euclidean Zoning
(B) Urban Sprawl Expansion
(C) Placemaking and Pedestrianization
(D) Regional Slum Clearance

41. Match the items in List I with the corresponding items in List II.
List I: Inclusive Planning Concepts
P. Universal Design
Q. Gender-inclusive planning
R. Affordable Housing
S. Social Equity
List II: Definitions
1. Housing that costs no more than 30% of a household's gross income
2. Design of environments usable by all people, to the greatest extent possible, without adaptation
3. Ensuring physical, social, and economic access to city resources for marginalized communities
4. Designing street lighting and safe transit corridors prioritizing women's safety
(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-4, R-1, S-2

42. Low-carbon urban planning emphasizes all of the following EXCEPT:
(A) Expanding multi-lane freeways to reduce traffic idling time
(B) Promoting extensive non-motorized transport networks for urban residents
(C) Encouraging high-density, energy-efficient building forms in city centers
(D) Integrating renewable energy generation into the existing urban power grid

43. Climate-resilient planning in coastal or flood-prone cities fundamentally requires:

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(A) The immediate privatization of all vulnerable waterfront land parcels
(B) Incorporating vulnerability assessments and adaptive flood infrastructure
(C) The construction of subterranean high-density housing for flood safety
(D) The lowering of all building plinth levels to match the local street grade

44. Consider the following elements:
1. Tactile paving on sidewalks
2. Ramps with a maximum slope of 1:12
3. Auditory signals at pedestrian crossings
4. Narrowing of doorways to maximize retail floor space

Which of the above statement(s) is/are components of Universal Design principles in urban spaces?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

45. Which of the following statements concerning SDG-11 (Sustainable Cities and Communities) is correct?
(A) It aims to make cities and human settlements inclusive, safe, resilient, and sustainable.
(B) It solely focuses on reducing vehicular emissions in Tier-1 cities.
(C) It mandates the shifting of heavy industries to rural areas by 2030.
(D) It recommends the abolition of local municipal governments in favor of regional authorities.

46. In contemporary planning, "Affordable Housing" is formally defined as:
(A) Housing provided entirely free of cost by the state government to all residents
(B) Housing units constructed using only locally sourced mud and organic bamboo
(C) Housing affordable to households with median income or below, per official indices
(D) Housing restricted exclusively to areas located outside the metropolitan boundaries

47. Arrange the following global milestones of sustainable development in chronological order of their occurrence:
I. Adoption of the Sustainable Development Goals (SDGs)
II. The Brundtland Report (Our Common Future)
III. The Kyoto Protocol
IV. The Rio Earth Summit (Agenda 21)
(A) II, IV, III, I
(B) II, III, IV, I
(C) IV, II, III, I
(D) IV, III, II, I

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48. Which of the following is NOT a principle of Smart Growth?
(A) Mix land uses
(B) Create walkable neighborhoods
(C) Foster outward, unrestricted Greenfield expansion
(D) Provide a variety of transportation choices

49. Read the following statements regarding urban planning approaches and select the correct option.
Statement I: Strategic spatial planning is a long-term, rigid blueprint approach that focuses exclusively on the physical layout of land uses.
Statement II: Strategic planning is a more flexible, action-oriented approach that integrates spatial policies with economic and social objectives.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

50. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): Bottom-up planning approaches emphasize community participation and local knowledge in the decision-making process.
Reason (R): It assumes that local residents understand their immediate environmental and social challenges better than centralized planning authorities.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.

(D) A is false but R is true.

51. A planner in Madhya Pradesh uses overlay analysis to identify areas suitable for new housing by combining slope, land use, and flood zone maps. Which technological paradigm is being utilized?
(A) Geographic Information Systems (GIS) and data-driven spatial planning
(B) Basic Computer-Aided Design (CAD) drafting for architectural layouts
(C) Traditional physical surveying and manual contouring of land parcels
(D) The Delphi technique for qualitative stakeholder consensus building

52. Which statement regarding Metropolitan Governance Frameworks in India is INCORRECT?
(A) The 74th CAA mandates the constitution of a Metropolitan Planning Committee for areas having a population of ten lakhs or more.
(B) MPCs are tasked with preparing a draft development plan for the metropolitan area as a whole.
(C) MPCs supersede the state legislature in enacting town planning laws.
(D) They aim to coordinate matters of common interest between municipalities and panchayats.

53. Match the items in List I with the corresponding items in List II.
List I: Planning Approaches
P. Master Planning
Q. Resilience Planning
R. Advocacy Planning
S. Smart City Paradigm
List II: Focus Areas
1. Data integration, IoT, and ICT for urban management
2. End-state physical blueprint of land use
3. Capacity of an urban system to absorb and bounce back from shocks
4. Planner acting as a representative for marginalized groups
(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-2, Q-4, R-3, S-1
(D) P-1, Q-3, R-4, S-2

54. Identify the correct pair regarding planning for informality:
(A) In-situ Upgrading - Demolishing slums and relocating residents to peripheral blocks
(B) Tenure Regularization - Evicting informal settlers without any legal compensation
(C) Gentrification - The equitable distribution of land rights to urban poor populations
(D) Site and Services Scheme - Providing raw land and infrastructure for self-built housing

55. The concept of "Right to the City", originally articulated by Henri Lefebvre, implies:
(A) The right of property developers to bypass existing zoning and building regulations
(B) Collective right of inhabitants to participate in shaping and accessing city space
(C) The legal right to own unlimited commercial real estate within municipal limits
(D) The right of suburban commuters to free parking in the central business district

56. Consider the following components relevant to urban disaster risk reduction:
1. Micro-zonation of seismic hazards
2. Implementation of early warning systems
3. Promotion of unreinforced masonry construction
4. Creation of flood retention basins
Which of the above statement(s) correctly represent Resilience Planning strategies?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

57. Which of the following is the most appropriate description of a "Smart City" in the Indian context under the Smart Cities Mission?
(A) A city entirely constructed from scratch on greenfield land using foreign capital
(B) A city where traditional municipal governance is replaced by artificial intelligence
(C) A city that restricts migration to maintain a strict population equilibrium
(D) City providing core infrastructure and decent quality of life using ICT solutions

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58. In Madhya Pradesh, the "Chief Minister Urban Infrastructure Development Scheme (CMUIDS)" primarily aims to:
(A) Financial assistance to urban local bodies for augmenting physical infrastructure
(B) Relocating rural industries to urban centers for better economic integration
(C) Establishing new greenfield smart cities through private partnerships
(D) Privatizing all municipal solid waste management and public utility services

59. Arrange the following urban planning paradigms in chronological order of their widespread adoption:
I. Organic/Incremental growth
II. Blueprint/Master Planning
III. Data-driven/Smart City Planning
IV. Strategic and Participatory Planning
(A) I, II, IV, III
(B) I, IV, II, III
(C) II, I, III, IV
(D) II, IV, I, III

60. Identify the INCORRECT pair related to contemporary urban concepts:
(A) Brownfield Development - Redevelopment of previously developed, often contaminated land
(B) Leapfrog Development - High-density development clustered near existing urban cores
(C) Greenfield Development - Construction on previously undeveloped agricultural or forested land
(D) Infill Development - Developing vacant or under-used parcels within existing urban areas

61. In the evolution of town planning, which ancient Greek city is famously associated with the grid-iron plan formulated by Hippodamus?
(A) Miletus
(B) Athens
(C) Sparta
(D) Thebes

62. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): Industrial Revolution cities experienced severe public health crises, such as cholera outbreaks.
Reason (R): Rapid urbanization outpaced the development of basic sanitation infrastructure, leading to overcrowded and unhygienic living conditions.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

63. Which planning concept focuses on the physical integration of a public transport hub with surrounding residential and commercial zones to maximize ridership and reduce private car use?
(A) Urban Fringe Belt development for peripheral growth
(B) Euclidean Zoning for land-use separation
(C) Satellite Town Development for metropolitan decongestion
(D) Transit-Oriented Development (TOD) for transport integration

64. Which of the following correctly describes the "Compact City" approach?
(A) Encouraging low-density sprawl to provide large private yards and open space
(B) Creating satellite cities separated by vast distances and large forest tracts
(C) Concentrating development to reduce footprint and reliance on automobiles
(D) Designing cities strictly along a linear axis following a major regional highway

65. Match the items in List I with the corresponding items in List II.
List I: Madhya Pradesh Cities
P. Bhopal
Q. Indore
R. Ujjain
S. Jabalpur
List II: Planning/Historical Significance
1. Historical organic growth centered around the Mahakaleshwar temple
2. Early implementation of BRTS (iBus) and TOD corridors
3. Cantonment town planning influence
4. Capital city master planning post-state

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reorganization
(A) P-4, Q-2, R-1, S-3
(B) P-4, Q-1, R-2, S-3
(C) P-2, Q-4, R-3, S-1
(D) P-1, Q-2, R-4, S-3

66. "Zoning" in modernist town planning is best defined as:
(A) The random allocation of land parcels to private developers through an auction
(B) The process of identifying historical monuments for conservation and tourism
(C) The creation of a continuous green buffer around a metropolitan urban area
(D) The legal division of a municipality into districts for specific land uses

67. All of the following are key features of Ebenezer Howard's Garden City EXCEPT:
(A) Heavy reliance on skyscraper residential blocks
(B) Communal ownership of land to prevent speculation
(C) A strict population cap (around 32,000 residents)
(D) A surrounding permanent agricultural greenbelt

68. Consider the following statements regarding the Town and Country Planning Organisation (TCPO) in India:
1. It is a technical advisory body under the Ministry of Housing and Urban Affairs.
2. It drafted the Model Town and Country Planning Law.
3. It has the statutory power to override any state-level Master Plan.
4. It prepared the Urban and Regional Development Plans Formulation and Implementation (URDPFI) guidelines.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

69. Read the following statements regarding the 74th Constitutional Amendment Act and select the correct option.
Statement I: The 74th Constitutional Amendment Act of 1992 provided constitutional status to urban local bodies in India.
Statement II: The 12th Schedule introduced by the 74th CAA completely excluded urban planning and regulation of land use from municipal functions.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

70. While drafting a Local Area Plan (LAP) for a dense inner-city neighborhood, a planner utilizes the "Transect" concept from New Urbanism. What does this involve?
(A) Applying a uniform building height restriction across the entire neighborhood
(B) Creating a physical transect line to divide different religious communities
(C) Ensuring that only one specific land use exists within the entire plan area
(D) Categorizing the environment into zones from rural to dense urban core

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71. Which of the following statements about Informality in urban planning is INCORRECT?
(A) Informal settlements often emerge due to the lack of affordable housing and exclusionary zoning.
(B) Informality is universally recognized by modern statutory master plans as a preferred method of urban expansion.
(C) The informal economy contributes significantly to the urban GDP in developing nations.
(D) Planning for informality often involves progressive tenure regularization rather than outright eviction.

72. Under the Madhya Pradesh Town and Country Planning Act, 1973, what is the term for the document that dictates the detailed land use and broad infrastructure layout for a specific planning area for a perspective period (typically 20 years)?
(A) Regional Plan
(B) Zonal Development Plan
(C) Development Plan (Master Plan)
(D) Town Planning Scheme

73. Identify the correct pair regarding urban planning documents and their primary scope:

(A) Regional Plan - Focused solely on the architectural facade of individual buildings
(B) Perspective Plan - A short-term, 1-year financial budget for municipal works
(C) Town Planning Scheme - A national-level policy directive for rural development
(D) Zonal Development Plan - Detailed plan providing land use at the sector/ward level

74. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): The implementation of the Real Estate (Regulation and Development) Act (RERA) impacts urban planning practice.
Reason (R): RERA mandates transparency, ensures projects are aligned with approved building plans, and curtails unauthorized deviations by developers.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

75. In the context of disaster risk reduction, if a planner in Jabalpur maps out the liquefaction potential of soils for an upcoming housing project, which specific resilience aspect are they addressing?
(A) Climatic resilience
(B) Seismic resilience
(C) Economic resilience
(D) Social resilience

76. Which of the following best describes the "Right to the City" as integrated into contemporary inclusive planning?
(A) Privatization of public parks to maintain aesthetic and security standards
(B) Equitable access to spaces, services, and governance for all socio-economic classes
(C) The right of city municipalities to annex adjacent rural areas unilaterally
(D) Authorization for street vendors to set up stalls on high-speed expressways

77. Match the items in List I with the corresponding items in List II.
List I: Key Figures
P. Patrick Geddes
Q. Jane Jacobs
R. Clarence Stein
S. Arturo Soria y Mata
List II: Associated Planning Concepts
1. Linear City
2. Radburn Layout
3. Conservative Surgery (Survey before Plan)
4. Eyes on the Street
(A) P-3, Q-4, R-2, S-1
(B) P-4, Q-3, R-1, S-2
(C) P-3, Q-2, R-4, S-1
(D) P-1, Q-4, R-2, S-3

78. Identify the INCORRECT pair regarding spatial planning theories:
(A) Concentric Zone Theory - E.W. Burgess
(B) Sector Theory - Homer Hoyt
(C) Central Place Theory - Ebenezer Howard
(D) Multiple Nuclei Theory - Harris and Ullman

79. The term "Universal Design" in the context of inclusive planning was coined to ensure that:
(A) All buildings globally follow a single architectural style and material pallet
(B) Planning policies are universally dictated by the United Nations agencies
(C) Only universal construction materials like concrete and steel are used for safety
(D) Environments and products are inherently accessible to all people regardless of ability

80. Consider the following statements regarding the "Smart Cities Mission" in Madhya Pradesh:
1. Bhopal and Indore were among the first 20 cities selected in the Phase 1 of the mission.
2. The mission solely focuses on retrofitting existing slums without any greenfield or pan-city initiatives.
3. Special Purpose Vehicles (SPVs) are created at the city level to implement the smart city projects.
4. Area-Based Development (ABD) is a core strategy of the mission.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

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81. When transitioning from traditional physical "Master Planning" to "Strategic Spatial Planning", what is the primary methodological shift?
(A) Shifting from digital GIS mapping back to manual paper drafting and coloring
(B) Moving from rigid maps to vision-driven frameworks with stakeholder negotiation
(C) Changing the focus from regional economics to individual building aesthetics
(D) Eliminating all zoning regulations in favor of total market deregulation and growth

82. Which statement accurately captures the essence of "Post-Modern Urbanism"?
(A) It seeks to eradicate all historical references in architecture and city planning.
(B) It enforces strict separation of pedestrians and vehicles via elevated walkways.
(C) It promotes the mass production of uniform, undecorated housing blocks for all.
(D) It values diversity, mixed-use development, and human-scale environments.

83. The term "Ecological Footprint" in sustainable planning is defined as:
(A) Measure of human demand on ecosystems, representing land area required for resources
(B) The physical area covered by parks and playgrounds within a specific city
(C) The depth of the structural foundation required for large-scale skyscrapers
(D) The total length of non-motorized transport corridors in a metropolitan area

84. All of the following are components of gender-inclusive urban planning EXCEPT:
(A) Provision of well-lit and unobstructed pedestrian pathways
(B) Design of public transport networks that cater to off-peak travel and trip-chaining
(C) Enforcing male-only public squares to minimize gender interactions
(D) Siting of public amenities to reduce domestic labor burdens

85. Read the following statements regarding the Radburn layout and select the correct option.
Statement I: The Radburn layout, designed by Clarence Stein and Henry Wright, was conceptually based on separating pedestrian and vehicular traffic.
Statement II: In a Radburn layout, houses face the street and automobiles, while backyards are eliminated to maximize street frontage.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

86. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): The Town and Country Planning Departments in states like Madhya Pradesh heavily utilize GIS technology for Development Plan preparation.
Reason (R): GIS allows for spatial analysis of multiple data layers, accurate land suitability assessments, and better integration of demographic data with physical maps.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

87. Planning for the Narmada River basin region in Madhya Pradesh requires a sensitive approach primarily because:
(A) The region is designated solely for high-density metropolitan expansion and industry
(B) Balancing ecological conservation, tribal patterns, and large-scale irrigation projects
(C) It is a completely arid region requiring massive inter-basin water transfers for life
(D) The entire basin is exempted from the MP Nagar Tatha Gram Nivesh Adhiniyam, 1973

88. A planner is evaluating a city's adherence to the Brundtland sustainability criteria. Which indicator best measures the city's commitment to "intergenerational equity"?
(A) Total number of new shopping malls and plazas constructed annually
(B) Percentage of foreign direct investment in

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the local real estate sector
(C) Rate of groundwater depletion versus the rate of natural aquifer recharge
(D) Statutory speed limit on the city's major arterial roads and highways

89. Match the items in List I with the corresponding items in List II.
List I: Planning Interventions
P. Slum upgrading
Q. Land pooling
R. Transferable Development Rights (TDR)
S. Urban Growth Boundary
List II: Primary Objectives
1. Conserving heritage or providing public amenities without direct financial compensation
2. Improving physical infrastructure and tenure security in situ
3. Containing urban sprawl and protecting peripheral agricultural land
4. Re-adjusting fragmented land parcels for planned expansion and financing infrastructure
(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-4, R-1, S-2

90. Which of the following statements about the "City Beautiful" movement is INCORRECT?
(A) It aimed to improve social ills solely through the construction of affordable worker housing.
(B) It emerged in the United States in the late 19th and early 20th centuries.
(C) The 1893 World's Columbian Exposition in Chicago was a major catalyst for the movement.
(D) It focused heavily on aesthetics, civic centers, monumental scale, and grand boulevards.

91. Identify the correct pair regarding urban forms:
(A) Star-shaped city - Development strictly constrained within a circular stone wall
(B) Linear city - Urban development arrayed along a transport corridor or natural feature
(C) Grid-iron city - A city characterized by a completely chaotic, organic street network
(D) Polycentric city - A city with absolutely no commercial or administrative centers

92. Consider the following outcomes expected from implementing Transit-Oriented Development (TOD) principles:
1. Increased public transit ridership
2. Reduction in per capita greenhouse gas emissions
3. Increased land values near transit stations
4. Higher dependency on private motorized vehicles
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, 3, and 4

93. The "AMRUT" (Atal Mission for Rejuvenation and Urban Transformation) scheme significantly impacts town planning. If an Assistant Town Planner in Gwalior is preparing a project under AMRUT, what is the primary focus of the intervention?
(A) Ensuring basic infrastructure, sewerage, urban transport, and green spaces
(B) Developing inter-state high-speed rail networks for regional trade and travel
(C) Funding the construction of rural agricultural markets and storage facilities
(D) Establishing heavy manufacturing SEZs with international financial investments

94. What is the most appropriate planning strategy to mitigate the "Urban Heat Island" effect in a densely built city?
(A) Increasing the use of dark asphalt for road surfacing in residential areas
(B) Maximizing the floor area ratio (FAR) to block prevailing regional winds
(C) Expanding green infrastructure, urban forestry, and green roof networks
(D) Removing street trees to widen vehicular carriageways for faster traffic flow

95. Identify the INCORRECT pair regarding planning institutions in Madhya Pradesh:
(A) MPUDC - Madhya Pradesh Urban Development Company
(B) MPTCP - Madhya Pradesh Town and Country Planning
(C) RERA MP - Real Estate Regulation Authority Madhya Pradesh
(D) MP T&C Board - Madhya Pradesh Taxation

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& Customs Board

96. Which ancient Roman text heavily influenced Renaissance and subsequent Western urban planning and architecture?
(A) The Republic by Plato
(B) The Prince by Machiavelli
(C) De Architectura by Vitruvius
(D) Utopia by Thomas More

97. "Functionalism" in Modernist planning was driven by the idea that:
(A) Cities functioning primarily as religious centers dictating architectural forms
(B) Physical layout reflecting utilitarian purposes without superfluous ornamentation
(C) A city's form functioning to confuse enemies through labyrinthine street designs
(D) Functions thoroughly mixed within single buildings to maximize social interaction

98. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): The shift towards participatory planning has slowed down the traditional top-down master plan preparation process.
Reason (R): Participatory planning involves extensive stakeholder consultations, consensus building, and addressing diverse community objections before plan finalization.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

99. Which of the following correctly describes "Tactical Urbanism"?
(A) Short-term, low-cost, scalable interventions to catalyze long-term change
(B) Long-term, high-budget, and permanent infrastructural overhauls of the city
(C) The military defense strategies used in fortifying medieval frontier towns
(D) The strict legal enforcement of master plan violations by municipal authorities

100. "Inclusionary Zoning" is defined as a planning policy that:
(A) Excludes polluting industries from all residential and commercial zones
(B) Zones areas exclusively for the construction of premium luxury private villas
(C) Incentivizes developers to allocate housing units for low-to-moderate-income residents
(D) Includes adjacent rural agricultural lands into the urban municipal boundary

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101. Match the items in List I with the corresponding items in List II.
List I: Five-Year Plans
P. First Five Year Plan
Q. Third Five Year Plan
R. Seventh Five Year Plan
S. Eleventh Five Year Plan
List II: Major Urban Planning Contribution
1. Emphasized Master Plans and created TCPO
2. Focused on inclusive growth and launched JNNURM
3. Ministry of Works and Housing established; focus on refugee housing
4. National Commission on Urbanisation established
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

102. Which of the following is NOT an objective of the National Urban Livelihoods Mission (NULM)?
(A) Providing shelters equipped with essential services to the urban homeless
(B) Addressing livelihood concerns of urban street vendors
(C) Facilitating access to self-employment and skilled wage employment opportunities
(D) Forcibly relocating informal sector workers to rural areas

103. Read the following statements regarding the "Charter of the New Urbanism" and select the correct option.
Statement I: The "Charter of the New Urbanism" was strongly influenced by the critique of suburban sprawl and single-use zoning.
Statement II: New Urbanism advocates for the revitalization of city centers and the creation of compact, pedestrian-friendly neighborhoods.

(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

104. Consider the following features characteristic of Le Corbusier's planning philosophy:
1. Decentralization of offices and industries
2. Rigid separation of pedestrian and vehicular traffic via elevated walkways
3. Preservation of historical urban fabric
4. 'Le Modulor' proportioning system

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

105. When preparing a Local Area Plan for an existing informal settlement in Ujjain to enhance resilience, which technical competency must the planner exercise first?
(A) Issuing eviction notices to all residents without legal land titles or deeds
(B) Designing a 20-story commercial tower for the site to attract investment
(C) Redrawing the municipal boundaries to exclude the settlement from city services
(D) Conducting a detailed socio-economic, spatial, and vulnerability baseline survey

106. Which statement regarding early post-independence urban planning in India is INCORRECT?
(A) Statutory backing for town planning acts was completely absent in all Indian states until the year 2000.
(B) The planning of industrial townships like Bhilai and Rourkela was deeply integrated into the national economic strategy.
(C) Delhi's first Master Plan (1962) was heavily influenced by Western models of zoning and decentralization.
(D) The early five-year plans allocated resources primarily towards rural agriculture and heavy industry rather than holistic urban development.

107. In the institutional framework of Madhya Pradesh, the Urban Development and Housing Department (UDHD) is the nodal department for which of the following?
(A) Formulating the state's agricultural export policy and rural market schemes
(B) Administering municipal acts, urban schemes, and overseeing the T&CP Directorate
(C) Managing the state's wildlife sanctuaries and forest conservation programs
(D) Regulating the primary and secondary education curriculum for urban schools

108. Identify the correct pair regarding sustainability frameworks:
(A) Agenda 21 - A blueprint for global industrial expansion at the cost of the environment
(B) GRIHA - National rating system for green buildings in India
(C) LEED-ND - Legal framework for land acquisition in India
(D) URDPFI - International climate treaty signed in Kyoto

109. A massive slum clearance drive in a Tier-2 city relocated residents 15 km away to a peripheral housing project. Within a year, a majority of the relocated families abandoned the new houses and returned to informal settlements near the city center. What is the most likely planning failure here?
(A) Relocation severed access to livelihoods and social networks without transit
(B) The new housing lacked sufficient parking space for multiple private vehicles
(C) The new houses were not equipped with advanced smart home automation systems
(D) The architectural style of the new housing was too traditional for modern residents

110. Select the correct answer from the options given below based on the Assertion (A) and Reason (R).
Assertion (A): The traditional "Master Plan" approach has often been criticized for being static and overly rigid.
Reason (R): Master plans typically project a long-term (20-year) end-state without adequate mechanisms for continuous monitoring, feedback, and adaptation to rapid informal

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urbanization.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

111. Which is the most appropriate reason for integrating GIS and remote sensing in contemporary urban planning?
(A) To purely generate aesthetic 3D renderings for real estate marketing purposes
(B) To permanently replace the need for public participation and onsite field surveys
(C) To centralize all planning power within the federal level of the national government
(D) To enable dynamic spatial analysis and support evidence-based decision making

112. Identify the INCORRECT pair related to planning theories and concepts:
(A) Patrick Geddes - Work, Place, Folk
(B) Clarence Perry - The Neighbourhood Unit
(C) Ebenezer Howard - The Radiant City
(D) Kevin Lynch - The Image of the City

113. Match the items in List I with the corresponding items in List II.
List I: Statutory Tools
P. Development Control Regulations (DCR)
Q. Transfer of Development Rights (TDR)
R. Environmental Impact Assessment (EIA)
S. Building Byelaws
List II: Functions
1. Regulates setbacks, heights, and structural safety at the individual plot level
2. Mechanism to transfer unutilized FAR to another receiving zone
3. Guidelines controlling land use, FAR/FSI, and density for a city/zone
4. Process of evaluating the likely environmental impacts of a proposed project
(A) P-3, Q-2, R-4, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-4, S-1

114. The concept of "Organic Growth" in medieval towns refers to:
(A) The cultivation of organic crops within the medieval city walls and ramparts
(B) A strict top-down planning approach mimicking the shape of living organisms
(C) The rapid industrialization of towns powered by renewable and fossil fuels
(D) Spontaneous urban development evolving over time in response to local needs

115. A fundamental principle of "Universal Design" applied to an urban park would necessitate:
(A) Creating pathways accessible to wheelchair users, visually impaired, and strollers
(B) Providing step-only access to preserve the natural rugged terrain and beauty
(C) Designing seating areas exclusively at a standard adult height for durability
(D) Mandating payment for entry to ensure high standards of maintenance and safety

116. Consider the following statements regarding the critique of modernism by Team 10 (Team X):
1. They believed the Athens Charter was too rigid and failed to consider human association and community.
2. They proposed concepts like 'streets in the sky' and 'stem and web' to foster social interaction.
3. They championed the immediate return to 19th-century Beaux-Arts architectural styles.
4. They completely rejected the idea of any large-scale urban interventions.
Which of the above statement(s) is/are correct?
(A) 1 and 2
(B) 1 and 3
(C) 2 and 4
(D) 3 and 4

117. Which of the following statements correctly identifies the role of a Development Authority (e.g., Indore Development Authority) under the MP Nagar Tatha Gram Nivesh Adhiniyam?
(A) Implementing Development Plan proposals through schemes and infrastructure projects
(B) To enact and enforce new state-level taxation and fiscal revenue policies
(C) To exclusively handle law and order and police administration within city limits
(D) To operate as the final appellate court for regional real estate legal disputes

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118. In the context of contemporary urbanism, the "15-Minute City" concept is best defined as:
(A) A city layout where the maximum commute time for inter-city rail travel is 15 minutes
(B) A policy restricting individuals from staying in public parks for over 15 minutes
(C) An emergency response standard mandating fire engines reach any site within 15 minutes
(D) Daily necessities located within a 15-minute walk or bike ride from any point

119. All of the following represent shifts from Master Planning to Strategic Spatial Planning, EXCEPT:
(A) From physical land-use focus to multi-sectoral socio-economic focus
(B) From collaborative local governance to strict, centralized authoritarian decrees
(C) From rigid blueprints to flexible, continuous processes
(D) From an emphasis on statutory control to an emphasis on stakeholder consensus and action plans

120. Read the following statements regarding urban planning and select the correct option.
Statement I: Climate-resilient planning involves both mitigation (reducing greenhouse gas emissions) and adaptation (adjusting to the effects of climate change).
Statement II: Low-carbon planning strictly prohibits the use of any form of public transportation.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct, but Statement II is incorrect.
(D) Statement I is incorrect, but Statement II is correct.

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ANSWERS

1. (B) Grid-iron street layout, baked brick construction, and advanced drainage systems
The Indus Valley Civilization pioneered systematic urban planning through standardized layouts. Cities featured a sophisticated grid-iron street pattern and used uniform baked bricks for construction. Most notable was the advanced underground drainage network connected to houses, reflecting a high level of hygiene and civil engineering knowledge in these ancient metropolitan centers.

2. (A) Both A and R are true and R is the correct explanation of A.
Roman military camps, known as castra, established a standardized rectangular layout that significantly shaped subsequent European urban development. The strict grid system centered on two primary perpendicular roads provided a logical and repeatable structure. This military framework allowed for efficient civilian settlement expansion and administrative organization across various regions of the expanding Roman empire.

3. (A) Topography-driven organic growth with irregular, defensive street networks
Medieval European towns typically evolved without a formal master plan, resulting in organic morphological patterns. These settlements prioritized defensive requirements and adapted to local topographical features, leading to narrow, winding street networks and irregular layouts. The presence of fortifications and the central placement of market squares or cathedrals often dictated the density of these urban forms.

4. (C) Rapid, unregulated urbanization with overcrowded tenements and mixed-use industries
The Industrial Revolution triggered a dramatic shift in urban demographics, leading to unprecedented and largely unregulated expansion of factory towns. This era was marked by the emergence of overcrowded tenement housing and the intermixing of industrial and residential land uses. Lack of planning caused severe public health challenges and physical deterioration of the urban environment within major centers.

5. (A) P-3, Q-4, R-1, S-2
Urban planning history is defined by influential theorists who proposed distinct spatial models. Ebenezer Howard introduced the Garden City concept to balance urban and rural living. Daniel Burnham championed the City Beautiful movement for civic grandeur. Le Corbusier designed the high-density Radiant City, while Clarence Perry formalized the Neighbourhood Unit to organize residential life around elementary schools.

6. (D) A fortified organic settlement adapted to plateau topography
Mandu serves as a prominent example of a medieval fortified city that developed organically based on its unique plateau geography. The settlement utilizes the natural defensive advantages of its high elevation, with structures integrated into the rugged terrain. Its physical structure reflects strategic military considerations and indigenous architectural responses to the specific environmental constraints of the Malwa region.

7. (B) A self-contained greenbelt community balancing residential and industrial areas
The Garden City model proposes self-sufficient urban settlements that combine the benefits of town and country living. These communities are planned with designated areas for residential, commercial, and industrial use, all enclosed by a permanent agricultural greenbelt. This framework aims to limit urban sprawl and ensure social equity by maintaining communal land ownership and controlled population growth.

8. (B) 1 and 3
Clarence Perry's Neighbourhood Unit theory emphasizes creating safe, walkable residential environments. The layout necessitates bounding the unit with arterial roads to redirect through-traffic away from living spaces. A centrally located elementary school acts as the focal point for the

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community, ensuring that institutional services and open recreation spaces are easily accessible to all residents within walking distance.

9. (D) Strict adherence to decentralized, low-density rural living
The City Beautiful movement emphasized urban grandeur and the aesthetic improvement of metropolitan centers through monumental architecture. Key features included grand civic centers and wide, tree-lined boulevards designed to inspire civic pride and moral virtue. Unlike the Garden City approach, it did not advocate for decentralized rural living, focusing instead on beautifying and formalizing existing large-scale urban environments.

10. (C) Statement I is true, but Statement II is false.
Le Corbusier's Radiant City was a modernist vision characterized by high-density residential towers set within expansive green landscapes. This model prioritized functional segregation and large-scale vertical construction rather than low-rise organic development. The design aimed to solve urban congestion by utilizing vertical space and standardized architectural forms, reflecting a radical departure from traditional, pedestrian-scaled streetscapes and mixed-use urban patterns.

11. (B) III, II, I, IV
Urban planning milestones followed a specific chronological trajectory based on changing societal needs. The City Beautiful movement emerged first in the late nineteenth century, followed by the Garden City movement. The Post-WWII New Towns movement was established to address mid-twentieth-century housing crises. Finally, New Urbanism developed in the late twentieth century as a critique of modern suburban sprawl.

12. (B) Sectoral division with strict separation of living, working, and circulation
Le Corbusier's planning principles are defined by functionalist zoning and a rational urban grid. This approach utilizes sectoral divisions to strictly separate distinct activities such as dwelling, employment, and recreation. The framework also emphasizes a hierarchy of circulation systems to ensure efficient movement, as seen in the plan for Chandigarh, which remains a primary example of this ideology.

13. (A) These towns were primarily designed as pure dormitory suburbs without any local employment opportunities.
Post-WWII New Towns were conceptually designed as self-contained and balanced communities rather than simple dormitory suburbs. They aimed to provide local employment opportunities, commercial services, and civic amenities within the settlement to reduce commuting. This strategy was fundamental to the goal of decongesting overpopulated metropolitan areas and creating sustainable, independent urban centers during the reconstruction period.

14. (C) A is true but R is false.
Lutyens' Delhi was designed with a grand, formal layout featuring wide avenues and significant monumental vistas, reflecting imperial power. However, this plan was influenced by the City Beautiful movement and European neoclassicism rather than organic medieval Indian models. The geometric precision and low-density residential patterns were a deliberate rejection of the dense, irregular structures found in traditional Indian cities.

15. (D) Bhubaneswar - Neighbourhood Unit and grid-iron structure
Post-independence Indian city planning applied various modern theories to new administrative centers. Bhubaneswar was designed by Otto Koenigsberger using the Neighbourhood Unit concept integrated into a flexible grid-iron structure. While Chandigarh followed Corbusian functionalism and Gandhinagar applied specific sector-based models, Bhubaneswar remains a distinct example where decentralized community units were used to organize the urban form for growing populations.

16. (C) Agro-industrial integration and self-help cooperative labor
The planning of refugee rehabilitation towns like Faridabad and Nilokheri was rooted in the concept of self-sufficiency. These settlements emphasized agro-industrial integration, where residents participated in building their own infrastructure through cooperative labor. The economic strategy focused on creating

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local livelihoods in small-scale industries and agriculture to ensure the rapid socio-economic stabilization of displaced populations following the partition.

17. (A) P-4, Q-3, R-2, S-1
The evolution of India's planning framework is marked by key statutory milestones. The Bombay Town Planning Act of 1915 provided the first legal basis for town planning. The TCPO formulated the Model Town and Country Planning Law in the 1960s. URDPFI guidelines provide contemporary spatial standards, while the 74th Constitutional Amendment Act focuses on the decentralization of urban governance.

18. (D) Inclusion of socio-economic, environmental, and financial variables
Contemporary integrated planning represents a shift from a narrow focus on physical land use toward a holistic approach. This transition involves incorporating complex socio-economic data, environmental sustainability metrics, and financial feasibility assessments into the planning process. Modern strategies recognize that physical layouts must be supported by sound social policies and resource management to create truly resilient and functional urban systems.

19. (A) Sixth Five-Year Plan - Introduction of Jawaharlal Nehru National Urban Renewal Mission (JNNURM)
India's Five-Year Plans established the foundation for urban policy development over several decades. The First Plan focused on refugee housing, and the Third Plan introduced systematic Master Plans for major cities. The Seventh Plan recognized urban poverty and established the National Commission on Urbanisation. However, JNNURM was launched much later, in 2005, during the Tenth Five-Year Plan period.

20. (B) 1, 3, and 4
Statutory planning frameworks in India mandate the creation of Master Plans under State Town and Country Planning Acts. Development Authorities were established to facilitate large-scale urban infrastructure projects by overcoming financial limitations of local bodies. Furthermore, Town Planning Schemes provide an essential mechanism for land pooling and readjustment, allowing for systematic urban expansion without the complexities of land acquisition.

21. (A) Slum clearance and relocation to urban peripheries
In the early decades of independent India, urban renewal was largely synonymous with slum clearance and the physical eradication of informal settlements. These projects prioritized the relocation of residents to new housing blocks on the urban periphery to facilitate the modernization of central city areas. This approach predated contemporary strategies that emphasize in-situ upgrading, heritage conservation, and community-led redevelopment.

22. (D) Absence of unified planning across fragmented agglomeration jurisdictions
Metropolitan Planning Committees (MPCs) were established to address the coordination challenges within large urban agglomerations. Traditional master planning often occurred within isolated municipal boundaries, ignoring the interdependencies of the wider region. MPCs provide a framework for integrated planning across multiple local jurisdictions, ensuring that infrastructure, transport, and land-use policies are synchronized for the entire metropolitan area rather than fragmented.

23. (A) I, IV, II, III
Institutional urban planning in India developed through several distinct phases. The Town and Country Planning Organization was established in the early 1960s. This was followed by the National Commission on Urbanisation in the 1980s. The 74th Constitutional Amendment Act provided constitutional status to local bodies in 1992. The Smart Cities Mission represents a more recent, technology-driven initiative launched in 2015.

24. (C) The State Government via official gazette notification
Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, the authority to designate a "Planning Area" rests with the State Government. This process is formalized through a notification in the official gazette, which defines the geographical boundaries and administrative scope of the area. This statutory step is essential

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before any formal development or master plans can be prepared and implemented.

25. (D) Active stakeholder involvement in decision-making and plan formulation
Participatory planning shifts the focus from top-down expert mandates to a collaborative approach involving all urban stakeholders. This process ensures that the needs and insights of local residents, businesses, and community groups are integrated into the final plan. By fostering transparency and consensus, participatory methods aim to create more equitable urban outcomes and increase public acceptance of planning decisions.

26. (A) Both A and R are true and R is the correct explanation of A.
Modernist planning was fundamentally built upon the principle of functional segregation to improve urban living conditions. Planners believed that separating industrial, residential, and recreational zones would reduce pollution, traffic congestion, and health risks. This rational approach aimed to create efficient, orderly cities by assigning specific spatial areas to distinct human activities, thereby replacing the perceived chaos of industrial-era cities.

27. (B) Strict functional segregation into dwelling, recreation, work, and transport
The Athens Charter of 1933, published by CIAM, became the foundational document for modernist urbanism. It advocated for the radical reorganization of cities based on four primary functions: dwelling, recreation, work, and transport. This philosophy promoted high-rise housing blocks and the complete separation of vehicular traffic from pedestrian areas, significantly influencing post-war urban reconstruction and the design of new administrative capitals.

28. (B) Short blocks and mixed-use developments hinder urban economic vitality.
Jane Jacobs famously critiqued modernist planning for its failure to understand the complex social dynamics of city life. She argued that short blocks, mixed-use neighborhoods, and high street-level activity were essential for economic vitality and public safety. Her work challenged the modernist preference for large-scale urban renewal and functional zoning, highlighting how such practices destroyed the vital community fabric of traditional streets.

29. (A) P-3, Q-4, R-2, S-1
Distinct urban paradigms emphasize different spatial priorities. Modernism is defined by functionalism and CIAM principles. Post-modern urbanism focuses on diversity, human scale, and historical references. New Urbanism promotes walkability and Traditional Neighborhood Design. The Compact City model emphasizes high-density, mixed-use development and urban intensification to reduce the environmental footprint of cities and prevent sprawling suburban expansion.

30. (D) Statement I is incorrect, but Statement II is correct.
Team X (Team 10) emerged as a group of architects who challenged the rigid functionalism of the early CIAM charters. They argued that the strict separation of functions ignored the essential human need for social association and community identity. Their work emphasized the importance of street networks as vibrant social spaces and advocated for urban forms that reflected the complexities of human interaction.

31. (D) Interconnected street networks with mixed housing and walkable centers
New Urbanism promotes the creation of compact, pedestrian-friendly neighborhoods as an alternative to automobile-dependent sprawl. A planner applying these principles would focus on interconnected street networks that reduce travel distances and encourage walking. This strategy involves integrating diverse housing types with local commercial centers and public spaces, ensuring that daily necessities are easily accessible without the mandatory use of private vehicles.

32. (B) 1, 3, and 4
Transit-Oriented Development is a contemporary planning strategy that integrates land use and transportation. It promotes high-density, mixed-use developments centered around public transit stations to maximize ridership. By focusing growth in these areas, TOD aims to reduce urban sprawl, minimize greenhouse gas emissions, and decrease reliance on private automobiles. This

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approach requires a high-quality, reliable public transportation network to be successful.

33. (B) Promoting sprawling, single-use suburban developments for privacy
The Charter of the New Urbanism explicitly rejects sprawling, single-use suburban development in favor of compact, mixed-use neighborhoods. It advocates for urban policies that support pedestrian-friendly environments and the revitalization of existing city centers. By celebrating local history and climate-responsive architecture, the movement seeks to create diverse communities that function efficiently at regional, neighborhood, and individual block scales.

34. (D) Walkability Score - Pedestrian accessibility and proximity to urban amenities
Modern urban design utilizes specific metrics to evaluate the performance of city spaces. The Walkability Score measures how easily residents can access essential amenities and services on foot. Other metrics like Floor Area Ratio regulate built density, while setback regulations control building placement relative to plot boundaries. These tools help planners create more accessible, efficient, and human-scaled urban environments.

35. (I, IV, II, III)
Urban planning theory has evolved through successive conceptual milestones. The Garden City was introduced at the end of the nineteenth century. This was followed by the Neighbourhood Unit in the early twentieth century. Le Corbusier's Radiant City emerged during the modernist era of the 1930s. Finally, Transit-Oriented Development gained prominence in the 1990s as a response to contemporary sprawl.

36. (C) Implementing urban growth boundaries coupled with infill development
The Compact City approach aims to limit outward urban expansion by focusing development within existing city boundaries. Implementing urban growth boundaries effectively prevents sprawl into agricultural land, while infill development utilizes vacant or underused urban parcels. This strategy increases built density and reduces travel distances, thereby lowering energy consumption and preserving natural resources located at the metropolitan fringe.

37. (A) Integrating smart growth, new urbanism, and green building at neighborhood scales
LEED-ND is a certification system that expands green building principles from individual structures to the neighborhood level. It integrates concepts from smart growth and new urbanism to promote walkable, mixed-use, and environmentally sustainable communities. The framework evaluates factors such as location efficiency, neighborhood pattern, and green infrastructure, providing a comprehensive standard for creating resilient and ecologically responsible urban developments.

38. (A) Both A and R are true and R is the correct explanation of A.
The Brundtland Commission's 1987 report, "Our Common Future," established the foundational definition of sustainable development. It emphasizes intergenerational equity by asserting that current progress must not occur at the expense of future generations. This principle requires balancing economic growth with social equity and environmental protection, ensuring that the Earth's resources remain available and viable for the long-term needs of humanity.

39. (B) SDG 11 - Industry, Innovation and Infrastructure
The Sustainable Development Goals provide a global framework for addressing complex urban and environmental challenges. While SDG 6 focuses on water and SDG 13 on climate action, SDG 11 is specifically dedicated to making cities and human settlements inclusive, safe, resilient, and sustainable. Industry, innovation, and infrastructure are actually the primary focus of SDG 9, which complements the urban goals.

40. (C) Placemaking and Pedestrianization
The redevelopment of Chappan Dukan in Indore is a successful example of placemaking and pedestrianization in an Indian context. The project transformed a traditional food street into a high-quality public space by restricting vehicular access and improving pedestrian infrastructure. This intervention enhanced the social vitality of the area, improved safety, and created a vibrant destination that prioritizes people over motorized traffic.

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41. (A) P-2, Q-4, R-1, S-3
Inclusive planning ensures urban environments serve diverse populations through specific design and policy interventions. Universal Design focuses on physical accessibility for people of all abilities. Gender-inclusive planning prioritizes safety features like street lighting. Affordable housing is defined by income-to-cost ratios, while social equity strategies work to provide marginalized communities with physical and economic access to essential city resources.

42. (A) Expanding multi-lane freeways to reduce traffic idling time
Low-carbon urban planning focuses on reducing the carbon footprint of cities through structural and behavioral changes. Strategies include promoting non-motorized transport, increasing building energy efficiency, and integrating renewable energy into the urban grid. Expanding multi-lane freeways is generally counterproductive to these goals, as it often encourages increased private vehicle use and contributes to higher overall urban emissions through induced demand.

43. (B) Incorporating vulnerability assessments and adaptive flood infrastructure
Climate-resilient planning in vulnerable areas requires a proactive approach to disaster risk management. This involves conducting detailed vulnerability assessments to identify high-risk zones and incorporating adaptive infrastructure, such as flood barriers and sustainable drainage systems. Such measures help cities withstand and recover from extreme weather events, ensuring the long-term safety and functionality of urban environments in the face of environmental change.

44. (A) 1, 2, and 3
Universal Design principles ensure that urban environments are accessible and usable by everyone, regardless of their physical abilities. Key components include tactile paving for the visually impaired, gentle ramps for wheelchair users, and auditory signals at crossings. These interventions eliminate physical barriers in public spaces, fostering an inclusive environment that supports the independent movement of all citizens within the city.

45. (A) It aims to make cities and human settlements inclusive, safe, resilient, and sustainable.
SDG-11 represents the global commitment to sustainable urbanization within the United Nations framework. Its primary goal is to ensure that cities are inclusive, safe, and resilient through improved planning and management. This involves expanding access to affordable housing, sustainable transport systems, and green public spaces while reducing the environmental impact of urban areas and protecting cultural and natural heritage.

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46. (C) Housing affordable to households with median income or below, per official indices
Affordable housing is a policy-driven concept that defines housing costs relative to household income levels. In contemporary planning, it typically refers to units where the total cost of rent or mortgage does not exceed a specific percentage of a household's gross income. This ensures that families with median or lower incomes can access safe housing without sacrificing other essential needs.

47. (A) II, IV, III, I
Sustainable development evolved through several global milestones. The Brundtland Report established the core definition in 1987. The Rio Earth Summit followed in 1992 with the adoption of Agenda 21. The Kyoto Protocol addressed climate emissions in 1997. Finally, the United Nations adopted the Sustainable Development Goals in 2015, providing a comprehensive framework for global development until the year 2030.

48. (C) Foster outward, unrestricted Greenfield expansion
Smart Growth is a planning philosophy that counters urban sprawl by advocating for compact, transit-oriented, and walkable development. Its principles include mixing land uses, preserving open space, and providing diverse transportation choices. Fostering unrestricted greenfield expansion is the opposite of Smart Growth, as the movement seeks to protect agricultural land and direct new development toward existing urban centers and infill sites.

49. (D) Statement I is incorrect, but Statement II is correct.
Strategic spatial planning is a modern alternative to traditional master planning. Unlike the rigid, physical blueprint approach, strategic planning is flexible and action-oriented. It integrates spatial policies with broader social, economic, and environmental objectives through a process of stakeholder engagement. This approach focuses on achieving specific development goals and managing urban change dynamically rather than enforcing a static end-state vision.

50. (A) Both A and R are true and R is the correct explanation of A.
Bottom-up planning emphasizes the importance of community participation in urban decision-making. This approach recognizes that local residents possess unique, detailed knowledge of their neighborhood's social and environmental challenges. By involving the community, planners can develop more effective and culturally appropriate solutions that address the specific needs of the population, leading to more sustainable and widely supported urban interventions.

51. (A) Geographic Information Systems (GIS) and data-driven spatial planning
Geographic Information Systems have revolutionized modern town planning by enabling the integration and analysis of diverse spatial data layers. Techniques like overlay analysis allow planners to combine information on topography, land use, and environmental hazards to identify optimal locations for development. This data-driven approach improves the accuracy of suitability assessments and supports more informed, evidence-based decision-making in the planning process.

52. (C) MPCs supersede the state legislature in enacting town planning laws.
Metropolitan Planning Committees are constitutional bodies designed to coordinate planning across fragmented local jurisdictions in large urban areas. While they are responsible for preparing draft development plans and addressing matters of common interest between municipalities and panchayats, they do not have the power to enact laws. Legislation remains the sole prerogative of the state legislature, which provides the statutory framework for MPC operations.

53. (A) P-2, Q-3, R-4, S-1
Different planning paradigms address specific urban challenges and governance goals. Master Planning creates a physical blueprint for future land use. Resilience planning focuses on the urban system's ability to withstand shocks. Advocacy planning involves professionals representing the interests of marginalized groups. The Smart City paradigm utilizes information and communication technology to improve urban management and infrastructure efficiency.

54. (D) Site and Services Scheme - Providing raw land and infrastructure for self-built housing
The Site and Services Scheme is a proactive approach to managing urban informality. It involves the state providing land parcels equipped with basic infrastructure like water and electricity, allowing low-income families to build their own homes over time. This method recognizes the resourcefulness of the urban poor while ensuring that settlements follow a planned layout and meet essential health and safety standards.

55. (B) Collective right of inhabitants to participate in shaping and accessing city space
The "Right to the City" is a social and political concept that emphasizes the collective ownership of urban space. It advocates for the active participation of all inhabitants in the production and management of the city environment. This principle seeks to ensure that urban development prioritizes social needs and public access over purely commercial interests, fostering more inclusive and democratic urban environments.

56. (B) 1, 2, and 4
Resilience planning strategies aim to minimize the impact of disasters on urban populations and infrastructure. Key components include seismic micro-zonation to guide safe construction, the implementation of early warning systems, and the creation of flood retention basins to manage stormwater. These measures enhance the urban system's ability to absorb shocks and maintain essential functions during and after extreme natural events.

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57. (D) City providing core infrastructure and decent quality of life using ICT solutions
In the Indian context, a Smart City is defined by its ability to provide high-quality infrastructure and services through the application of Information and Communication Technology. The goal is to improve the quality of life for residents by making urban management more efficient and responsive. This includes initiatives in areas like waste management, smart energy grids, and digital governance within existing and new urban areas.

58. (A) Financial assistance to urban local bodies for augmenting physical infrastructure
The Chief Minister Urban Infrastructure Development Scheme in Madhya Pradesh provides essential financial support to urban local bodies. This funding is directed toward upgrading and expanding physical infrastructure, such as roads, drainage systems, and public utilities. By augmenting the capacity of local municipalities, the scheme aims to improve the overall quality of urban services and support the planned growth of cities.

59. (A) I, II, IV, III
Urban planning has progressed through distinct stages of development. Historical cities often began with organic, incremental growth. The mid-twentieth century was dominated by rigid blueprint or master planning. This transitioned into more strategic and participatory approaches in the late twentieth century. Today, the focus has shifted toward data-driven and smart city planning, utilizing advanced technologies for real-time urban management.

60. (B) Leapfrog Development - High-density development clustered near existing urban cores
Leapfrog development refers to the practice of building new urban settlements at a significant distance from existing city edges, leaving undeveloped land in between. This form of sprawl increases infrastructure costs and reliance on automobiles. In contrast, developments clustered near existing urban cores are known as infill or contiguous developments, which are generally considered more efficient and sustainable urban forms.

61. (A) Miletus
The ancient Greek city of Miletus is famously associated with the formalization of the grid-iron street plan. Formulated by Hippodamus of Miletus, this layout used a systematic network of perpendicular streets to organize residential, commercial, and civic spaces. This approach to town planning provided a rational and repeatable framework that influenced urban design across the Mediterranean and throughout subsequent Western history.

62. (A) Both A and R are true and R is the correct explanation of A.
During the Industrial Revolution, cities experienced rapid population growth that far outpaced the development of basic sanitation and housing. This led to extreme overcrowding and unhygienic living conditions, facilitating the spread of infectious diseases like cholera. These public health crises were a direct consequence of unregulated urban expansion and eventually became the primary catalyst for the emergence of modern town planning.

63. (D) Transit-Oriented Development (TOD) for transport integration
Transit-Oriented Development focuses on the physical and functional integration of high-capacity public transport hubs with the surrounding urban fabric. By concentrating high-density, mixed-use development within walking distance of transit stations, TOD aims to maximize ridership and reduce the need for private car trips. This strategy creates vibrant, walkable environments and is a key component of sustainable contemporary urban planning.

64. (C) Concentrating development to reduce footprint and reliance on automobiles
The Compact City approach promotes high-density, mixed-use urban environments to minimize the overall spatial footprint of a city. By concentrating development, this model reduces the distance between home, work, and services, thereby decreasing reliance on automobiles and encouraging walking and public transit. This strategy also helps protect natural landscapes and agricultural land on the urban periphery from sprawl.

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65. (A) P-4, Q-2, R-1, S-3
Madhya Pradesh's cities exhibit diverse planning histories and modern developments. Bhopal was planned as the capital city following state reorganization. Indore is recognized for its early adoption of high-quality transit systems and corridor-based development. Ujjain represents an organic historical growth pattern centered on ancient religious sites. Jabalpur demonstrates the significant influence of British military cantonment layouts on its physical structure.

66. (D) The legal division of a municipality into districts for specific land uses
Zoning is a fundamental tool in modernist town planning used to regulate the use and development of land. It involves the legal division of a city into distinct districts, each designated for specific activities such as residential, commercial, or industrial. This practice aims to prevent land-use conflicts, manage urban density, and ensure that different functions are organized in an efficient and orderly manner.

67. (A) Heavy reliance on skyscraper residential blocks
Ebenezer Howard's Garden City was conceived as a low-density, self-sufficient community rather than a vertical, high-rise environment. The model emphasized communal land ownership, a strict population limit, and a permanent surrounding greenbelt to maintain the balance between town and country. Howard sought to provide residents with ample open space and garden access, which were considered essential for a healthy and equitable urban life.

68. (B) 1, 2, and 4
The Town and Country Planning Organisation is the central technical advisory body in India for urban and regional planning. It has played a foundational role by drafting the Model Town and Country Planning Law and preparing the comprehensive URDPFI guidelines. While it provides expert guidance and standards to state governments, it does not possess the statutory power to override state-level Master Plans.

69. (C) Statement I is true, but Statement II is false.
The 74th Constitutional Amendment Act of 1992 was a landmark piece of legislation that provided constitutional recognition to urban local bodies. It introduced the 12th Schedule, which specifically lists eighteen functional responsibilities for municipalities, including urban planning and the regulation of land use. This amendment aimed to empower local governments by decentralizing decision-making and formalizing their role in managing urban development.

70. (D) Categorizing the environment into zones from rural to dense urban core
The "Transect" concept in New Urbanism is a planning tool used to organize urban environments along a continuum from rural to dense urban. It categorizes different zones based on their physical character, building type, and intensity of use. By applying this framework, planners can ensure that architectural and urban design elements are appropriate for their specific context, fostering a gradual and logical transition across the city.

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71. (B) Informality is universally recognized by modern statutory master plans as a preferred method of urban expansion.
Informality is a complex feature of urbanization in developing countries, often arising from a lack of affordable housing options. While informal economies and settlements are significant, they are generally not recognized as the preferred method of expansion by statutory master plans, which prioritize formal, regulated growth. Modern planning increasingly seeks to address informality through tenure regularization and infrastructure upgrading rather than eviction.

72. (C) Development Plan (Master Plan)
Under the Madhya Pradesh Town and Country Planning Act, 1973, the Development Plan, commonly known as the Master Plan, is the primary document for city planning. It dictates the broad land use, transport networks, and infrastructure requirements for a specific planning area over a 20-year horizon. This statutory document provides the legal framework for managing urban growth and ensuring orderly development within the state.

73. (D) Zonal Development Plan - Detailed plan providing land use at the sector/ward level
Urban planning involves a hierarchy of documents with different scales and scopes. A Zonal Development Plan provides a more detailed

breakdown of land use and infrastructure at the sector or ward level, bridging the gap between the broad Master Plan and individual plot-level controls. This ensures that the high-level vision of the city is translated into specific, implementable guidelines for smaller urban areas.

74. (A) Both A and R are true and R is the correct explanation of A.
The Real Estate (Regulation and Development) Act significantly impacts urban planning practice by enforcing transparency and accountability in the construction sector. RERA requires that developers adhere strictly to the plans approved by town planning and municipal authorities. By curtailing unauthorized deviations and ensuring project completion, RERA supports the effective implementation of urban master plans and protects the interests of homebuyers and the public.

75. (B) Seismic resilience
Mapping the liquefaction potential of soils is a critical technical step in addressing seismic resilience. Soil liquefaction occurs during earthquakes when water-saturated sediment loses its strength and behaves like a liquid, potentially causing severe damage to building foundations. By identifying these high-risk areas during the planning phase, authorities can implement appropriate engineering standards and land-use restrictions to mitigate the impact of future seismic events.

76. (B) Equitable access to spaces, services, and governance for all socio-economic classes
The "Right to the City" is a core principle of inclusive planning that advocates for the democratic use of urban space. It goes beyond simple legal rights to emphasize that all residents, especially marginalized groups, should have equitable access to the city's resources, services, and decision-making processes. This approach aims to create cities that are socially just and responsive to the needs of all citizens.

77. (A) P-3, Q-4, R-2, S-1
Modern urban planning theory has been shaped by pioneering thinkers and their specific design philosophies. Patrick Geddes advocated for detailed surveys before planning interventions. Jane Jacobs emphasized the importance of natural surveillance through street-level activity. Clarence Stein developed the innovative Radburn layout for vehicular separation. Arturo Soria y Mata proposed the Linear City model to organize urban growth along transport lines.

78. (C) Central Place Theory - Ebenezer Howard
Central Place Theory is a geographical theory that explains the size, spacing, and distribution of human settlements; it was formulated by Walter Christaller, not Ebenezer Howard. Howard is the founder of the Garden City movement. Other key urban theories include the Concentric Zone Theory by Burgess, the Sector Theory by Hoyt, and the Multiple Nuclei Theory by Harris and Ullman.

79. (D) Environments and products are inherently accessible to all people regardless of ability
Universal Design is a comprehensive approach to creating environments and products that are accessible to everyone, regardless of their age, size, or physical ability. In urban planning, this means designing public spaces, buildings, and transportation systems that eliminate barriers to movement. This principle fosters social inclusion by ensuring that the city is usable by the widest possible range of people without the need for specialized adaptations.

80. (B) 1, 3, and 4
The Smart Cities Mission in Madhya Pradesh involves multiple strategies for urban transformation, including Area-Based Development and pan-city initiatives. Bhopal and Indore were selected in the initial phase, leading to the creation of Special Purpose Vehicles to manage and implement projects. Unlike simple slum upgrading, the mission aims for a holistic improvement of city infrastructure and services through the application of smart technologies and governance.

81. (B) Moving from rigid maps to vision-driven frameworks with stakeholder negotiation
The transition to strategic spatial planning represents a shift from static, map-based blueprints to flexible, vision-driven frameworks. This methodology emphasizes the importance of stakeholder negotiation and the integration of social and economic goals with spatial policy. Strategic planning allows for continuous

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monitoring and adaptation, making it more effective at managing the complexities of rapid urbanization and diverse community interests compared to traditional Master Planning.

82. (D) It values diversity, mixed-use development, and human-scale environments.
Post-modern urbanism emerged as a critique of the rigid functionalism and uniformity of the modernist era. It celebrates architectural diversity, historical references, and the complexity of the urban fabric. This approach promotes mixed-use development and human-scaled environments that prioritize the social experience of the street. By rejecting universal solutions, post-modernism seeks to create urban spaces that are more culturally responsive and visually engaging.

83. (A) Measure of human demand on ecosystems, representing land area required for resources
The ecological footprint is a critical sustainability metric that quantifies the environmental impact of human activities. It calculates the total area of biologically productive land and water required to provide the resources a population consumes and to absorb the waste it generates. In sustainable planning, this measure helps urban authorities understand the resource dependency of their cities and develop strategies to reduce overall environmental pressure.

84. (C) Enforcing male-only public squares to minimize gender interactions
Gender-inclusive planning aims to create urban environments that are safe and accessible for everyone, particularly women and girls. Strategies include providing well-lit pathways, designing transit networks that support complex travel patterns, and ensuring that public amenities are conveniently located. Enforcing gender-segregated spaces is the opposite of inclusive planning, which seeks to eliminate barriers and foster equitable access to all parts of the city.

85. (C) Statement I is correct, but Statement II is incorrect.
The Radburn layout was an innovative residential design focused on the complete separation of pedestrian and vehicular traffic. In this model, houses were oriented toward internal green parks and pedestrian paths, with vehicular access restricted to the rear via service lanes. This configuration maximized safety and communal space, contrasting with traditional layouts where houses faced busy streets and pedestrians shared space with moving automobiles.

86. (A) Both A and R are true and R is the correct explanation of A.
Modern town planning departments increasingly rely on GIS technology to enhance the accuracy and efficiency of development plan preparation. GIS enables planners to analyze multiple spatial data layers simultaneously, facilitating precise land suitability assessments and the integration of demographic information. This analytical power supports the creation of more robust and evidence-based Master Plans, allowing for better management of urban growth and environmental resources.

87. (B) Balancing ecological conservation, tribal patterns, and large-scale irrigation projects
Planning for the Narmada River basin requires a sophisticated approach that balances diverse and often conflicting interests. The region is characterized by significant ecological sensitivity, traditional tribal settlement patterns, and major national irrigation and power projects. Sustainable planning in this context necessitates a careful integration of environmental protection with social equity and economic development to ensure the long-term viability of the basin's resources.

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88. (C) Rate of groundwater depletion versus the rate of natural aquifer recharge
Intergenerational equity is a core principle of sustainability, requiring that current resource use does not compromise the needs of future generations. The rate of groundwater depletion compared to the natural recharge rate is a primary indicator of this commitment. If water is extracted faster than it can be replaced, future residents will face severe shortages, representing a failure to maintain environmental assets for the long term.

89. (A) P-2, Q-4, R-1, S-3
Urban planning utilizes various intervention strategies to achieve specific development goals. Slum upgrading improves living conditions in situ, while land pooling allows for the systematic readjustment of fragmented parcels

for expansion. Transferable Development Rights provide a mechanism for heritage conservation without direct cash payouts. Urban growth boundaries are implemented to contain sprawl and protect valuable agricultural and natural land on the city's periphery.

90. (A) It aimed to improve social ills solely through the construction of affordable worker housing.
The City Beautiful movement was primarily concerned with the aesthetic and moral improvement of cities through grand civic architecture and monumental urban design. While it aimed to address social problems, it did so by creating inspiring public spaces rather than focusing on affordable housing. The movement emphasized order and grandeur, believing that beautiful environments would foster better civic behavior and improve the quality of urban life.

91. (B) Linear city - Urban development arrayed along a transport corridor or natural feature
The linear city is a specific urban form where development is organized along a central axis, such as a major transport corridor or a geographic feature like a river. This model, proposed by Arturo Soria y Mata, aims to maximize accessibility to transit and infrastructure while maintaining proximity to the surrounding countryside. It provides an alternative to traditional concentric growth patterns found in many historical cities.

92. (A) 1, 2, and 3
Transit-Oriented Development is expected to deliver multiple benefits for urban sustainability. By focusing high-density growth near transit stations, it naturally increases public transit ridership and reduces per capita greenhouse gas emissions. Additionally, the improved accessibility often leads to increased land values in these areas. These outcomes work together to create more efficient urban forms and reduce the overall environmental impact of metropolitan areas.

93. (A) Ensuring basic infrastructure, sewerage, urban transport, and green spaces
The AMRUT mission focuses on improving the quality of life in cities by providing essential basic services to every household. Primary interventions include the development of reliable water supply, sewerage networks, and efficient urban transport systems. The scheme also emphasizes the creation of green spaces and parks, ensuring that cities have the necessary infrastructure to support healthy and sustainable living environments for their residents.

94. (C) Expanding green infrastructure, urban forestry, and green roof networks
The Urban Heat Island effect, where cities are significantly warmer than surrounding rural areas, can be mitigated through nature-based solutions. Expanding green infrastructure, including urban forests and green roofs, helps cool the environment through evapotranspiration and shading. These interventions reduce the amount of heat-absorbing surfaces in the city, improve air quality, and enhance the overall thermal comfort and resilience of dense urban areas.

95. (D) MP T&C Board - Madhya Pradesh Taxation & Customs Board
Madhya Pradesh has a well-defined institutional framework for urban management and planning. The Town and Country Planning Directorate, Urban Development Company, and RERA are all key entities responsible for various aspects of spatial planning, infrastructure development, and real estate regulation. The "Taxation and Customs Board" is not an urban planning institution, as those functions are typically handled by finance and revenue departments at various levels.

96. (C) De Architectura by Vitruvius
Vitruvius' "De Architectura" is a seminal ancient Roman text that laid out the principles of architecture and town planning. Its rediscovery during the Renaissance had a profound influence on Western urban design, emphasizing symmetry, proportion, and the importance of civic infrastructure. The Vitruvian triad of strength, utility, and beauty became the foundational standard for architects and planners for centuries across Europe and the Americas.

97. (B) Physical layout reflecting utilitarian purposes without superfluous ornamentation
Functionalism in modernist planning was based on the belief that the form of a building or city should be determined strictly by its function. This ideology rejected traditional decorative styles in favor of simple, efficient designs that prioritized utilitarian needs. Planners sought

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to create rational urban environments where every element served a clear purpose, leading to the standardized, geometric architectural forms characteristic of the modernist era.

98. (A) Both A and R are true and R is the correct explanation of A.
Participatory planning represents a significant shift from traditional top-down methods, often requiring more time for the plan preparation process. This is because it involves extensive consultation with a wide range of stakeholders to build consensus and address community concerns. While this may slow down the initial phases, it leads to more inclusive and sustainable plans that are better supported by the people they affect.

99. (A) Short-term, low-cost, scalable interventions to catalyze long-term change
Tactical urbanism involves the use of quick, inexpensive, and temporary changes to the urban environment to test new ideas and demonstrate potential improvements. These interventions, such as pop-up parks or temporary bike lanes, are often community-led and can catalyze more permanent, long-term urban transformations. This approach allows planners and residents to evaluate the impact of changes before committing significant public resources to permanent infrastructure.

100. (C) Incentivizes developers to allocate housing units for low-to-moderate-income residents
Inclusionary zoning is a planning policy used to increase the supply of affordable housing. It requires or provides incentives for developers to include a certain percentage of low-to-moderate-income units within new residential projects. This strategy helps create socio-economically diverse neighborhoods and ensures that affordable housing is integrated into market-rate developments rather than being concentrated in isolated, disadvantaged areas of the city.

101. (A) P-3, Q-1, R-4, S-2
India's Five-Year Plans have significantly influenced the national urban development trajectory. The First Plan prioritized refugee housing, while the Third Plan formally established the Town and Country Planning Organisation. The Seventh Plan saw the creation of the National Commission on Urbanisation. Later, the Eleventh Plan introduced a strong focus on inclusive growth and large-scale urban missions like JNNURM to address contemporary challenges.

102. (D) Forcibly relocating informal sector workers to rural areas
The National Urban Livelihoods Mission aims to reduce poverty and vulnerability among the urban poor by providing access to gainful self-employment and skilled wage opportunities. Its focus areas include supporting street vendors and providing essential services to the urban homeless through well-equipped shelters. The mission emphasizes empowering the urban poor within their existing environments rather than forcibly relocating them to rural areas or other jurisdictions.

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103. (A) Both Statement I and Statement II are correct.
New Urbanism emerged as a powerful critique of the mid-twentieth-century trend toward automobile-dependent suburban sprawl. Its core principles advocate for a return to compact, walkable, and mixed-use neighborhoods that mirror the functionality of traditional city centers. By prioritizing pedestrian accessibility and high-quality public space, the movement seeks to create diverse communities that are environmentally sustainable and socially vibrant alternatives to sprawling development patterns.

104. (A) 1, 2, and 4
Le Corbusier's planning philosophy was rooted in high-modernist principles of efficiency and rationality. Key features included the strict separation of pedestrian and vehicular traffic and the use of the "Le Modulor" proportioning system to ensure human-scale design within massive structures. His models often favored radical redevelopment rather than the preservation of historical urban fabric, seeking to replace traditional city patterns with vertical, functionalized urban sectors.

105. (D) Conducting a detailed socio-economic, spatial, and vulnerability baseline survey
Effective planning for informal settlements begins with a comprehensive understanding of the existing conditions. Conducting detailed socio-economic and vulnerability surveys allows

planners to identify the specific needs and risks faced by the community. This baseline data is essential for developing targeted interventions that improve tenure security, infrastructure, and resilience without causing unnecessary displacement or social disruption within the settlement's established networks.

106. (A) Statutory backing for town planning acts was completely absent in all Indian states until the year 2000.
Town planning in India has had statutory backing long before the year 2000, with many states adopting comprehensive acts based on early colonial and post-independence models. For example, the Bombay Town Planning Act was enacted in 1915. Early post-independence planning focused on industrial townships and the creation of Master Plans for major cities, integrated into national economic strategies to support the country's rapid modernization.

107. (B) Administering municipal acts, urban schemes, and overseeing the T&CP Directorate
The Urban Development and Housing Department serves as the primary administrative authority for urban affairs in Madhya Pradesh. Its responsibilities include the implementation of municipal laws and the management of various state and national urban schemes. The department also provides oversight for the Town and Country Planning Directorate, ensuring that spatial planning and infrastructure projects are aligned with the state's broader urban policy.

108. (B) GRIHA - National rating system for green buildings in India
GRIHA is the primary national framework used in India to evaluate and rate the environmental performance of buildings. It provides a set of standards that encourage the reduction of resource consumption and waste generation during the construction and operation of buildings. By certifying green buildings, GRIHA helps promote sustainable architectural practices and supports national goals for energy efficiency and environmental conservation.

109. (A) Relocation severed access to livelihoods and social networks without transit
The failure of peripheral relocation projects often stems from a lack of consideration for the socio-economic realities of the urban poor. Moving residents far from the city center can sever their vital access to jobs, informal markets, and social support systems. Without affordable and efficient public transit to connect them to their workplaces, families are frequently forced to return to informal settlements near the urban core.

110. (A) Both A and R are true and R is the correct explanation of A.
Traditional Master Plans have been widely criticized for their static nature and long-term horizons, which often fail to account for the rapid pace of urban change. These plans frequently project an end-state vision twenty years into the future without sufficient mechanisms for ongoing monitoring and adaptation. Consequently, they often struggle to remain relevant in dynamic urban environments characterized by high rates of informal growth and shifting socio-economic conditions.

111. (D) To enable dynamic spatial analysis and support evidence-based decision making
Integrating GIS and remote sensing into urban planning allows for sophisticated, dynamic spatial analysis that supports evidence-based decision-making. These technologies enable planners to track urban expansion, monitor environmental changes, and analyze complex spatial relationships in real-time. By providing accurate and up-to-date data, they help create more effective and responsive planning strategies that can better address the multifaceted challenges of contemporary urbanization.

112. (C) Ebenezer Howard - The Radiant City
The Radiant City concept was proposed by Le Corbusier, not Ebenezer Howard. Howard is famously known for the Garden City movement, which emphasized low-density, self-sufficient communities. Other significant planning contributions include Patrick Geddes' survey-based methodology, Clarence Perry's Neighbourhood Unit theory, and Kevin Lynch's research on urban perception and the imageability of cities, all of which remain foundational to the field today.

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113. (A) P-3, Q-2, R-4, S-1
Urban planning uses a variety of statutory tools to regulate development and protect the environment. Development Control Regulations manage overall land use and density at the city scale, while building byelaws focus on plot-level safety and setbacks. Transfer of Development Rights allows for the preservation of sensitive areas, and Environmental Impact Assessments evaluate the potential ecological consequences of large-scale projects before they are approved.

114. (D) Spontaneous urban development evolving over time in response to local needs
Organic growth in historical towns refers to a process where urban forms develop spontaneously without a centralized master plan. These settlements evolved incrementally as individual buildings and streets were added in response to immediate local needs, defensive requirements, or topographical constraints. This resulted in the irregular, high-density layouts and winding street networks that characterize many ancient and medieval cities around the world today.

115. (A) Creating pathways accessible to wheelchair users, visually impaired, and strollers
Universal Design in public parks requires the creation of an environment that is inclusive of all users. This involves designing pathways that are wide, smooth, and gently sloped to accommodate wheelchair users and strollers, while also incorporating tactile features for the visually impaired. By removing physical barriers, such design ensures that people of all ages and abilities can safely and independently enjoy public recreational spaces.

116. (A) 1 and 2
Team X (Team 10) was a group of architects who challenged the rigid functionalism of the Athens Charter, arguing that it ignored the complexities of human community. They proposed new urban concepts like "streets in the sky" and the "stem and web" model to foster better social association and interaction within high-density environments. Their work emphasized that urban design must be rooted in the social dynamics of everyday life.

117. (A) Implementing Development Plan proposals through schemes and infrastructure projects
Development Authorities in Madhya Pradesh serve as the primary implementation agencies for urban plans. Their role is to translate the broad goals of the state-approved Development Plan into specific, actionable projects and infrastructure schemes. By managing land assembly, infrastructure construction, and urban expansion projects, these authorities play a critical role in the physical development and growth of major metropolitan areas within the state.

118. (D) Daily necessities located within a 15-minute walk or bike ride from any point
The 15-Minute City is a contemporary urban planning concept that promotes hyper-proximity and sustainable living. The goal is to ensure that every resident can access their basic daily needs—such as groceries, healthcare, education, and recreation—within a short 15-minute walk or bicycle ride from their home. This model aims to reduce car dependency, lower carbon emissions, and enhance the overall quality of life and social connectivity within neighborhoods.

119. (B) From collaborative local governance to strict, centralized authoritarian decrees
The shift from traditional Master Planning toward Strategic Spatial Planning is characterized by a move away from rigid blueprints toward more flexible and collaborative processes. This modern approach emphasizes multi-sectoral strategies and the importance of stakeholder consensus rather than centralized, top-down mandates. By focusing on action plans and continuous monitoring, strategic planning seeks to manage urban development in a way that is more responsive to changing socio-economic and environmental conditions.

120. (C) Statement I is correct, but Statement II is incorrect.
Climate-resilient planning requires a dual approach involving the mitigation of greenhouse gas emissions and the adaptation of urban systems to inevitable climatic changes. In contrast, low-carbon planning does not prohibit public transportation; rather, it actively promotes high-quality public transit and non-motorized transport to reduce reliance on private vehicles.

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Both strategies are essential for developing sustainable and future-ready cities in an era of environmental uncertainty.

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CHAPTER 02

Planning, Data, Surveys and Analytical Techniques

1. Which of the following is considered a primary spatial data collection method in urban planning?
(A) Conducting a household socio-economic questionnaire survey in a specific ward
(B) Extracting decadal population figures from the Census of India website
(C) Reviewing the published City Development Plan for existing land use statistics
(D) Downloading satellite imagery from the ISRO Bhuvan portal

2. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): The Census of India provides critical secondary data for urban planners regarding demographic shifts and housing conditions.
Reason (R): The Census of India conducts primary field surveys using remote sensing and aerial photography to determine spatial land use.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

3. An Assistant Town Planner is tasked with planning a new bypass road for Indore city. To accurately determine the existing travel patterns and the number of vehicles that would likely divert to the new bypass, which of the following surveys is most critical?
(A) Origin-Destination (O-D) survey
(B) Parking space inventory survey
(C) Pedestrian volume count
(D) Spot speed study

4. Match the spatial data sources in List I with their key functions or outputs in List II:
List I: (Spatial Data Sources)
P. ISRO Bhuvan
Q. Survey of India (SoI)
R. Census of India
S. NSDI
List II: (Key Functions/Outputs)
1. Provides open-source topographical maps (Open Series Maps)
2. Indian geo-platform providing satellite imagery and thematic services
3. Facilitates sharing of standardized geospatial data across national agencies
4. Provides demographic, housing, and socio-economic data at various administrative levels
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-4, S-2

5. Which of the following statements regarding the resolution of satellite imagery in remote sensing is INCORRECT?
(A) Spatial resolution refers to the size of the smallest feature that can be detected on the ground.
(B) Temporal resolution is the measure of the sensor's ability to discriminate extremely fine differences in energy.
(C) Spectral resolution denotes the number of wavelength intervals measured by the sensor.
(D) Radiometric resolution determines the number of grayscale levels or data depth recorded by the sensor.

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6. Consider the following statements regarding ground truthing methods in spatial data collection:
1. Ground truthing is only required for high-resolution drone surveys and not for satellite imagery.
2. It verifies and calibrates the interpretation of land use and land cover derived from remote sensing data.
3. Handheld GPS devices are frequently used during ground truthing to log accurate spatial coordinates.
4. It eliminates the need for secondary demographic data in development plan preparation.

Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 2 and 3 only
(C) 1, 3 and 4 only
(D) 2, 3 and 4 only

7. In the context of Madhya Pradesh, which digital portal is officially maintained by the state government for integrating and providing access to spatial land records, cadastral maps (Khasra/Bhu-Naksha), and property data?
(A) MP e-NagarPalika
(B) MP Town and Country Planning Dashboard
(C) CMUIDS Geo-Portal
(D) MP Bhu-Abhilekh

8. Arrange the following steps of conducting a socio-economic household survey for a town planning scheme in the correct chronological order:
1. Designing the questionnaire and finalizing the sampling framework
2. Data processing, tabulation, and spatial analysis
3. Reconnaissance survey and defining the study area
4. Field data collection and on-site ground truthing

(A) 3, 1, 4, 2
(B) 1, 3, 4, 2
(C) 3, 4, 1, 2
(D) 1, 4, 3, 2

9. What is a choropleth map in spatial analysis?
(A) A map connecting points of equal value to depict variables like elevation.
(B) A map using shading, coloring, or patterns within geographic boundaries.
(C) A map using uniform dots to represent the spatial distribution of features.
(D) A map showing transport networks and nodes without administrative boundaries.

10. Which of the following is the most appropriate reason for conducting public perception and stakeholder surveys during the preparation of a Master Plan?
(A) To generate mandatory spatial datasets for legislative GIS mapping.
(B) To enable participatory planning by identifying community needs and priorities.
(C) To calculate the future demographic growth rates of the urban population.
(D) To replace technical field surveys like traffic counts or noise monitoring.

11. Identify the correct pair regarding environmental surveys in planning:
(A) Soil survey – Determining the bearing capacity for zoning buildable land
(B) Topographical survey – Identifying groundwater contamination levels
(C) Vegetation survey – Measuring ambient air quality indices
(D) Hydrological survey – Assessing urban heat island effects

12. A town planner is conducting a housing condition survey in an informal settlement to determine eligibility for an in-situ slum redevelopment scheme. Which of the following criteria is the most essential spatial indicator to record during the physical survey?
(A) The exact commuting distance of residents to their native villages
(B) The digital footprint of residents on local municipal portals
(C) Structural typology (pucca, semi-pucca, kutcha) and access to basic utility networks
(D) The historical evolution of property tax rates in the wider municipal zone

13. Which of the following is NOT an application of Network Analysis in spatial planning?
(A) Determining the optimal service coverage area for a new fire station
(B) Identifying the shortest path for a solid

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waste collection fleet
(C) Assessing pedestrian accessibility to a public transit node
(D) Calculating the net floor area ratio (FAR) of a residential subdivision

14. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): Drone surveys are increasingly preferred over traditional satellite imagery for micro-level urban planning and informal settlement mapping.
Reason (R): Drones can fly below cloud cover and capture ultra-high spatial resolution imagery, which is highly advantageous for mapping dense, narrow urban patterns.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

15. A planner wishes to conduct a socio-economic survey in a highly heterogeneous ward containing distinct high-income, middle-income, and low-income pockets. To ensure all groups are proportionally represented without surveying the entire population, which sampling method should the planner choose?
(A) Simple Random Sampling
(B) Stratified Random Sampling
(C) Snowball Sampling
(D) Convenience Sampling

16. Match the traffic and transportation surveys in List I with their primary objectives in List II:
List I: (Traffic and Transportation Surveys)
P. Traffic Volume Count
Q. Origin-Destination Survey
R. Parking Survey
S. Speed and Delay Survey
List II: (Primary Objectives)
1. To assess travel desire lines and trip distribution patterns
2. To identify bottlenecks and evaluate the level of service on a corridor
3. To determine peak hour flow and capacity utilization of an intersection
4. To measure accumulation, turnover, and duration of stationary vehicles
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

17. Which of the following statements correctly describes suitability analysis using overlay techniques in GIS?
(A) It involves superimposing thematic layers such as slope and land use to find optimal sites.
(B) It relies on socio-economic household data collected through large-scale primary field questionnaires.
(C) It utilizes statistical sampling techniques to measure the standard deviation of real estate prices.
(D) It monitors historical urban sprawl patterns by tracing the growth of the municipal boundary.

18. Consider the following statements regarding buffer analysis in spatial planning:
1. Buffer analysis is used to create polygons around point, line, or area features at a specified distance.
2. It is highly useful in enforcing setback regulations around ecologically sensitive zones like rivers.
3. Buffer zones cannot be applied to line features such as highways or railway tracks.
4. It helps in assessing the population affected by noise pollution near an airport.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

19. Consider the following two statements and select the correct option.
Statement I: Digital Elevation Models (DEMs) are three-dimensional representations of terrain surfaces used extensively in watershed analysis and drainage planning.
Statement II: DEMs only display the built environment and automatically filter out all natural topographical features like slopes and

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ridges.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

20. Arrange the following steps for delineating an Urban Growth Boundary (UGB) using GIS in the correct chronological order:
1. Estimating future land requirements based on population projections and density standards
2. Identifying existing built-up areas using recent satellite imagery
3. Mapping environmental constraints (e.g., water bodies, steep slopes) to exclude non-developable land
4. Defining the contiguous developable boundary accommodating the projected growth

(A) 2, 3, 1, 4
(B) 1, 2, 3, 4
(C) 2, 1, 3, 4
(D) 3, 2, 1, 4

21. Under the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh, urban local bodies must prepare Detailed Project Reports (DPRs). Which mapping technique is typically mandated for assessing the spatial feasibility of underground sewerage lines in these DPRs?
(A) Mapping demographic data as isolines for service area population analysis.
(B) Using total stations and DGPS for contour surveying and underground radar.
(C) Mapping socio-economic parameters using dot density for residential zoning.
(D) Applying arithmetic models to project the city's future population growth.

22. Identify the INCORRECT pair regarding population density and its variants:
(A) Gross Population Density – Total population divided by the total land area of a city
(B) Net Residential Density – Total population divided only by the land area specifically zoned for residential use
(C) Room Density – Total number of habitable rooms divided by the total built-up area of the city
(D) Plot Density – Number of dwelling units situated on a single residential plot

23. A commercial plot in the TT Nagar area of Bhopal measures 2,000 sq. m. If the permissible Floor Space Index (FSI) / Floor Area Ratio (FAR) is 2.5, what is the maximum total built-up area allowed on this plot, assuming no other restrictions?
(A) 2,500 sq. m.
(B) 5,000 sq. m.
(C) 7,500 sq. m.
(D) 10,000 sq. m.

24. In statistical tools for planning data, which measure of central tendency represents the middle value of a dataset when arranged in ascending or descending order?
(A) Median
(B) Arithmetic Mean
(C) Mode
(D) Standard Deviation

25. Geometric growth rate calculation in population projection assumes that:
(A) The population increases by a fixed absolute number in each successive decade.
(B) The population grows at a constant percentage rate per unit of time.
(C) The population growth rate decreases as the city reaches its saturation limit.
(D) The population fluctuations occur randomly without any distinct predictable trends.

26. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): Cadastral maps are fundamental for land acquisition and property tax assessment in town planning.
Reason (R): Cadastral maps show precise property boundaries, ownership details, and plot dimensions at a very large scale.
(A) Both A and R are true and R is the correct explanation of A.

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(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

27. When presenting a complex spatial plan to local municipal councilors with non-technical backgrounds, which of the following data visualization techniques is the most effective for illustrating the proposed change in land use over the next 20 years?
(A) WebGIS dashboards with thematic maps and charts.
(B) Raw data matrices of geospatial coordinate tables.
(C) Charts depicting the standard deviation of land values.
(D) Complex AutoCAD line drawings without descriptive legends.

28. Match the digital tools in List I with their primary function in planning in List II:
List I: (Digital Tools)
P. QGIS
Q. AutoCAD
R. UrbanSim
S. GPS Apps (e.g., ODK Collect)
List II: (Primary Function in Planning)
1. Urban land use and transportation modeling for scenario simulation
2. On-site field data collection with spatial tagging
3. Open-source desktop software for advanced spatial analysis and thematic mapping
4. Precision vector drafting for detailed engineering and layout plans
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-4, R-3, S-2

29. Which of the following statements regarding Municipal GIS and property tax mapping is INCORRECT?
(A) Municipal GIS links spatial building footprints with non-spatial property tax databases.
(B) Property tax mapping via GIS often identifies unassessed or under-assessed properties, improving municipal revenue.
(C) Unique Property Identification Numbers (UPIN) are typically generated and integrated into the GIS platform.
(D) Implementing a Municipal GIS completely eliminates the legal requirement for ground-level property verification.

30. Consider the following statements regarding BIM (Building Information Modelling) and 3D city modelling concepts:
1. BIM is exclusively used for 2D cadastral mapping.
2. 3D city models are useful for solar potential analysis, line-of-sight analysis, and urban aesthetics.
3. CityGML is an open standardized data model and exchange format used to store digital 3D models of cities.
4. Integrating BIM with GIS enables planners to analyze building interiors alongside external urban infrastructure.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 3 only
(B) 2, 3 and 4 only
(C) 1, 3 and 4 only
(D) 1, 2 and 4 only

31. Which of the following is NOT an open data source commonly used by urban planners in India?
(A) Geo-platform services provided by the ISRO Bhuvan portal.
(B) Internal master plan draft servers of state departments.
(C) Topographical maps from the Survey of India Nakshe portal.
(D) Digital publications from the official Census of India library.

32. Arrange the following standard stages of processing remote sensing satellite imagery for Land Use Land Cover (LULC) mapping in the correct chronological order:
1. Image classification (Supervised/ Unsupervised)
2. Image acquisition and layer stacking
3. Accuracy assessment using ground truthing points
4. Pre-processing (Radiometric and Geometric corrections)
(A) 2, 4, 1, 3
(B) 4, 2, 1, 3

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(C) 2, 1, 4, 3
(D) 1, 2, 4, 3

33. A planner reviews a traffic volume count survey for a key junction and notices a significantly high Passenger Car Unit (PCU) value despite a low absolute number of vehicles. What does this indicate about the traffic composition?
(A) The traffic consists primarily of heavy commercial vehicles and multi-axle trucks.
(B) The traffic consists primarily of two-wheelers and bicycles.
(C) The intersection is heavily used by pedestrians.
(D) The survey was conducted incorrectly as PCU must equal the number of vehicles.

34. Which of the following statements correctly identifies the primary purpose of a transect walk in planning?
(A) A statistical sampling method used to calculate household income distributions.
(B) A remote sensing technique applied to calibrate high-resolution aerial imagery.
(C) Walking a designated route to physically observe spatial and social conditions.
(D) An automated routing algorithm used within advanced GIS network analysis tools.

35. When designing a questionnaire for a socio-economic household survey, which type of question should an Assistant Town Planner use to gather standardized, easily quantifiable demographic data suitable for statistical analysis?
(A) Closed-ended multiple-choice or dichotomous questions.
(B) Open-ended subjective questions for qualitative feedback.
(C) Projective psychological tests for behavioral assessments.
(D) Unstructured narrative prompts for open-ended interviews.

36. Consider the following two statements and select the correct option.
Statement I: Aerial photography usually offers higher spatial resolution than freely available satellite imagery due to the lower flying altitude of aircraft.
Statement II: Satellite imagery can provide continuous, multi-temporal coverage of large urban regions more cost-effectively than frequent aerial photography campaigns.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

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37. The ISRO Bhuvan geoportal provides multiple spatial services for planners. Which of the following is an application specifically hosted on Bhuvan that assists in decentralized urban planning?
(A) PM Gati Shakti National Master Plan
(B) BHUVAN Panchayat
(C) MP Bhu-Naksha
(D) Census Info India

38. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): Stakeholder surveys are often subject to bias and may not represent the silent majority of the population.
Reason (R): Stakeholder surveys typically engage vocal interest groups, NGOs, and community leaders who might push specific agendas rather than objective spatial facts.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

39. For a planner working in Madhya Pradesh, data from the MP RERA (Real Estate Regulatory Authority) portal is most useful for which of the following analytical tasks?
(A) Tracking historical meteorological patterns within the state's districts.
(B) Assessing the geometric alignment of highways maintained by central agencies.
(C) Calculating the arithmetic growth rate of the rural population in the region.

(D) Monitoring the volume and geographical spread of private real estate projects.

40. Match the mapping techniques in List I with their descriptions in List II:
List I: (Mapping Techniques)
P. Isoline Map
Q. Dot Density Map
R. Choropleth Map
S. Dasymetric Map
List II: (Description)
1. Uses dots to represent the spatial concentration of a phenomenon
2. Connects points of equal value, such as contours for elevation
3. Uses ancillary data to distribute aggregated data more accurately across zones
4. Uses graded colors or patterns bounded by administrative units
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-4, R-1, S-3

41. A town planner is analyzing whether the existing primary schools in a city are equitably distributed. They use a GIS tool to draw a 1-kilometer radius around each school to identify unserved residential areas. Which spatial analysis technique is being applied?
(A) View-shed analysis
(B) Proximity and buffer analysis
(C) Digital elevation modeling
(D) Isoline mapping

42. Consider the following statements regarding Land Use Land Cover (LULC) mapping:
1. 'Land Use' refers to how people utilize the land (e.g., residential, commercial).
2. 'Land Cover' refers to the physical material on the surface of the earth (e.g., grass, asphalt, trees).
3. Remote sensing imagery can easily interpret 'Land Use' directly without any ground truthing or contextual analysis.
4. LULC classification schemes (such as the Anderson classification) standardize the mapping process.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

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43. Identify the correct pair regarding data variables in planning:
(A) Nominal Data – Categorizing land use into residential, commercial, and industrial
(B) Ordinal Data – Measuring precise temperatures in degree Celsius
(C) Interval Data – Ranking housing conditions as good, fair, or poor
(D) Ratio Data – Assigning PIN codes to postal zones

44. Arrange the following actions to create a Municipal GIS-based property tax system in the correct chronological order:
1. Linking spatial footprints with non-spatial property ownership and tax demand databases
2. Procuring high-resolution base maps or drone imagery of the municipal area
3. Publishing the mapped data on a WebGIS portal for citizen grievance redressal
4. Digitizing building footprints and generating Unique Property Identification Numbers (UPINs)
(A) 2, 4, 1, 3
(B) 4, 2, 1, 3
(C) 2, 1, 4, 3
(D) 1, 2, 4, 3

45. Identify the INCORRECT pair regarding transportation data surveys:
(A) Cordon Survey – Conducted at an imaginary boundary enclosing a study area to count trips entering and leaving
(B) Screen Line Survey – Conducted along natural or artificial barriers to check data accuracy
(C) Public Transit Survey – Conducted to record bus occupancy and passenger boarding/alighting patterns
(D) Home Interview Survey – Conducted primarily to measure spot vehicle speeds on expressways

46. Which of the following best describes the advantage of using WebGIS platforms in urban planning?
(A) Requiring expensive, standalone software

installations for every municipal employee.
(B) Serving as the primary tool for generating complex interior building models (BIM).
(C) Allowing multi-stakeholder visualization and querying of spatial data over the internet.
(D) Eliminating the necessity for conducting any primary field surveys or ground truthing.

47. Gross Population Density is defined as:
(A) Total population divided by the total residential land area.
(B) Total population divided by the entire land area of the geographic unit, regardless of land use.
(C) Total population divided by the total developed area, excluding water bodies and unbuildable slopes.
(D) Number of dwelling units per hectare of plotted land.

48. Which of the following is NOT an application of calculating the standard deviation in planning data?
(A) Measuring the dispersion of household incomes around the mean
(B) Assessing spatial inequality by analyzing the variance in park access distances
(C) Understanding the spread of property values in a specific real estate market
(D) Identifying the absolute total volume of daily commuter trips

49. If a city's population was 100,000 in 2011 and grew at a continuous exponential growth rate to 150,000 in 2021, which mathematical formula correctly represents this growth projection?
(A) $P_t = P_0 \times e^{rt}$
(B) $P_t = P_0 + (n \times d)$
(C) $P_t = P_0 (1 + r)^n$
(D) $P_t = P_0 + r^t$

50. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): Modern urban planning increasingly advocates for higher land use mix ratios rather than strict single-use zoning.
Reason (R): High land use mix ratios reduce trip lengths, encourage walkability, and support the "15-minute city" concept.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

51. Indore Smart City intends to conduct a physical infrastructure mapping of congested core areas. Why is a drone survey preferred over conventional satellite remote sensing for this specific task?
(A) Providing sub-centimeter resolution and 3D oblique imagery of narrow street facades.
(B) Requiring no regulatory permissions from any state or central aviation authorities.
(C) Providing real-time thermal readings of internal structures for urban heat analysis.
(D) Bypassing the need for digital GIS software processing and spatial data indexing.

52. Match the sampling methods in List I with their characteristics in List II:
List I: (Sampling Methods)
P. Simple Random Sampling
Q. Systematic Sampling
R. Stratified Sampling
S. Cluster Sampling
List II: (Characteristics)
1. Selecting every nth household from a cadastral list
2. Dividing the population into homogeneous subgroups and sampling from each
3. Every member of the population has an equal chance of selection
4. Dividing the area into geographic blocks and surveying all units within randomly selected blocks
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-4, R-3, S-1

53. Which of the following statements is correct regarding the design of questionnaires for informal settlement surveys?
(A) Using complex academic jargon to ensure the scientific validity of the gathered data.
(B) Framing questions about tenure and eviction

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history sensitively to ensure cooperation.
(C) Making the survey instrument as lengthy as possible to cover every urban theory.
(D) Avoiding the recording of the physical condition of shared community facilities.

54. Consider the following statements regarding environmental surveys:
1. Soil surveys are essential to determine the suitability of land for high-rise construction and landfill siting.
2. Water quality surveys only test for physical parameters and ignore chemical and biological parameters.
3. Vegetation surveys help map the existing green cover and assess tree canopy density.
4. Topographical surveys provide data on contours, which is critical for natural drainage planning.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3 only
(B) 1, 3 and 4 only
(C) 2, 3 and 4 only
(D) 1, 2 and 4 only

55. Consider the following two statements and select the correct option.
Statement I: Field observation methods, such as windshield surveys, provide rapid preliminary assessments of neighborhood conditions.
Statement II: Field observations eliminate the need for detailed secondary demographic data analysis during Master Plan preparation.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

56. Arrange the following steps of conducting a physical land use survey in the correct chronological order:
1. Field visit and updating the base map with current land use codes
2. Acquisition of a recent base map or satellite imagery
3. Digitization and creation of a GIS land use layer
4. Finalizing the land use classification system (e.g., residential, commercial)

(A) 2, 4, 1, 3
(B) 4, 2, 1, 3
(C) 2, 1, 4, 3
(D) 4, 1, 2, 3

57. A spatial analyst is using GIS overlay techniques to select a site for a new solid waste landfill. Which combination of thematic layers is most appropriate to determine suitability?
(A) Educational institutions density, crime rate hotspots, and historic monuments
(B) Road network, groundwater table depth, distance from surface water bodies, and existing land use
(C) Ward boundaries, property tax zones, and postal code areas
(D) Traffic origin-destination matrices and pedestrian volume counts

58. What is the primary objective of the National Spatial Data Infrastructure (NSDI) in India?
(A) To construct physical transport corridors connecting different spatial nodes in the country.
(B) To provide a framework for sharing and discovering geospatial data across departments.
(C) To act as the primary regulatory body for licensing private real estate developments.
(D) To automate the distribution of property titles using high-resolution satellite imagery.

59. In the context of Madhya Pradesh, the Town and Country Planning (TCP) Department prepares Development Plans under the MP Nagar Tatha Gram Nivesh Adhiniyam, 1973. Which foundational map forms the basis for proposing future land use zones in these plans?
(A) Existing Land Use (ELU) Map overlaid on cadastral boundaries
(B) Global Digital Elevation Model at 30m resolution
(C) National Highway Authority Route Map
(D) MP Housing Board building elevation drawings

60. Which of the following statements about using GPS for field data collection is INCORRECT?
(A) DGPS provides significantly higher spatial

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accuracy than standard handheld GPS units.
(B) GPS depends on a global network of satellites to determine precise geographic coordinates.
(C) GPS devices work perfectly in underground or indoor settings without satellite visibility.
(D) Mobile applications can integrate geographic coordinates directly with field survey responses.

61. Ground truthing is defined as:
(A) Performing the mathematical process of geo-referencing scanned paper maps for GIS use.
(B) Excavating soil layers to determine the foundation depth of existing heritage structures.
(C) Organizing public participation workshops where citizens vote on land use proposals.
(D) Collecting physical measurements on the ground to verify interpreted remote sensing data.

62. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): Network analysis in GIS is an essential tool for evaluating the accessibility of public transport systems.
Reason (R): Network analysis utilizes road and transit line topologies to calculate parameters like travel time, impedance, and service area distances.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

63. Which of the following is NOT an urban modelling software/tool used for spatial scenario simulation?
(A) UrbanSim
(B) MS PowerPoint
(C) CommunityViz
(D) SLEUTH

64. Match the remote sensing characteristics in List I with their definitions in List II:
List I: (Remote Sensing Characteristics)
P. Spatial Resolution
Q. Spectral Resolution
R. Temporal Resolution
S. Radiometric Resolution
List II: (Definitions)
1. Revisit time of the satellite over the same area
2. Sensitivity of the sensor to the magnitude of electromagnetic energy (bit depth)
3. Number and width of specific wavelength bands recorded
4. Size of the ground area represented by a single pixel
(A) P-4, Q-3, R-1, S-2
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-1, R-3, S-2
(D) P-1, Q-2, R-3, S-4

65. Which of the following best describes QGIS?
(A) An open-source GIS application used for analyzing and viewing geospatial data.
(B) A proprietary architectural rendering software used for high-cost 3D visualization.
(C) A global demographic census database managed by a specific international organization.
(D) A text-processing software used primarily for analyzing qualitative stakeholder surveys.

66. Consider the following statements regarding the interpretation of base maps:
1. A base map provides the primary spatial reference for overlaying thematic data.
2. Contours, prominent water bodies, and major road networks are standard elements of a base map.
3. Base maps for urban planning are typically prepared at a very small scale, such as 1:1,000,000.
4. The accuracy of a development plan heavily depends on the precision of its base map.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

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67. Identify the correct pair regarding land records terminology in India:
(A) Khasra – A register detailing land ownership, crop details, and plot area
(B) Bhu-Naksha – The financial ledger of municipal property tax
(C) Mutation – The physical demarcation of an urban growth boundary
(D) Patwari – A satellite imagery processing algorithm

68. Consider the following two statements and select the correct option.
Statement I: The arithmetic method of population projection assumes a constant absolute increase in population over time.
Statement II: The arithmetic method generally yields a much higher projected population figure than the geometric method for rapidly growing cities.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

69. Identify the INCORRECT pair regarding spatial software and tools:
(A) ArcGIS – Commercial GIS platform for spatial analysis
(B) CommunityViz – Extension for statistical processing of non-spatial census data in SPSS
(C) AutoCAD – Drafting tool heavily used for preparing detailed town planning layouts
(D) WebGIS – Internet-based geographic information systems for data dissemination

70. A town planner is assigned to evaluate the impact of a proposed 30-story commercial building on the sunlight exposure of adjacent historic residential blocks. Which digital tool/concept is most competent to handle this analysis?
(A) 2D Cadastral mapping in Auto CAD
(B) Network routing analysis
(C) 3D City Modelling and shadow analysis in GIS/BIM
(D) Arithmetic population modeling

71. An Assistant Town Planner is using Auto CAD to draft a residential layout. They need to ensure that the road widths and plot dimensions adhere strictly to the local building bye-laws. Which inherent feature of Auto CAD is primarily utilized for this exactness?
(A) Geostatistical Kriging interpolation
(B) Raster image classification
(C) Real-time traffic volume simulation
(D) Precision vector drafting and dimensioning tools

72. A planner is reading a proposed development plan map where land uses are designated by standard color codes. They observe a large area shaded in purple adjacent to an area shaded in yellow. According to standard Indian planning practice, what land use mix is most likely being proposed?
(A) Industrial adjacent to Residential
(B) Commercial adjacent to Recreational
(C) Public/Semi-Public adjacent to Transportation
(D) Agricultural adjacent to Water bodies

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73. The Bhuvan portal provides an online tool to download free coarse-to-medium resolution satellite data for India. Which of the following satellite missions primarily provides this optical imagery on Bhuvan?
(A) Landsat
(B) IRS (Resourcesat/Cartosat)
(C) Sentinel
(D) MODIS

74. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): In a housing condition survey, structures are typically classified as 'Pucca', 'Semi-Pucca', or 'Kutcha'.
Reason (R): This classification is based solely on the legal ownership status of the land on which the structure is built.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.

(D) A is false but R is true.

75. Under the Smart Cities Mission in Madhya Pradesh, cities like Bhopal and Ujjain have established ICCCs (Integrated Command and Control Centres). What is the primary role of GIS in these centres?
(A) A real-time spatial dashboard integrating data from sensors, cameras, and civic services.
(B) A traditional tool for generating manual topographical maps using field-based plain tables.
(C) A drafting environment for proposing constitutional amendments for urban local governance.
(D) A statistical model for projecting state-level GDP growth and regional economic indices.

76. Match the statistical tools in List I with their applications in planning data in List II:
List I: (Statistical Tools)
P. Mean
Q. Mode
R. Standard Deviation
S. Correlation
List II: (Application in Planning Data)
1. Identifying the most frequently occurring housing type in a survey
2. Measuring the strength of the relationship between distance from CBD and land value
3. Calculating the average per capita water consumption
4. Understanding the variability or disparity in income levels within a ward
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

77. Which of the following statements about open-source GIS tools is correct?
(A) Open-source GIS platforms like QGIS are technically incapable of processing vector data models.
(B) They require a mandatory paid annual subscription for accessing their basic analysis functions.
(C) They are explicitly banned by national geospatial agencies for use in any government projects.
(D) Their source code is public, allowing users to modify software and develop custom plugins.

78. Consider the following statements regarding the application of drone surveys in urban planning:
1. Drone surveys offer high-resolution orthomosaics suitable for detailed property mapping.
2. Photogrammetry software is required to stitch drone images into a continuous map.
3. Drone flights in India require adherence to Digital Sky platform regulations and airspace zoning (Red, Yellow, Green zones).
4. Drones can penetrate thick concrete roofs to map interior floor plans of buildings.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 3 only
(B) 1, 3 and 4 only
(C) 2, 3 and 4 only
(D) 1, 2 and 4 only

79. Which of the following is an INCORRECT statement regarding public perception and stakeholder surveys?
(A) They help in assessing the acceptability of a proposed urban policy.
(B) They identify conflicting interests among different community groups.
(C) Focus Group Discussions (FGDs) are a qualitative method used in these surveys.
(D) They are exclusively quantitative and do not permit open-ended responses.

80. Consider the following two statements and select the correct option.
Statement I: Topographical sheets prepared by the Survey of India (SoI) show natural and man-made features but do not display property ownership boundaries.
Statement II: Cadastral maps show precise property boundaries but generally lack detailed contour lines indicating terrain elevation.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

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81. Floor Area Ratio (FAR) or Floor Space Index (FSI) is defined as:
(A) The ratio of the total built-up area of all floors to the total area of the plot.
(B) The percentage of the plot area covered by the building footprint.
(C) The ratio of the residential land area to the commercial land area in a city.
(D) The total volume of the building divided by the street width.

82. Which of the following datasets is NOT typically derived from the Census of India tables for town planning purposes?
(A) Ward-wise population distribution and sex ratio
(B) Number of dilapidated census houses
(C) Real-time traffic volume data on national highways
(D) Work participation rate and occupational structure

83. In spatial analysis, gradient analysis is most appropriately used to study:
(A) Studying continuous spatial changes like the drop in population density from city core to edge.
(B) Calculating the arithmetic projection of future populations based on historical census figures.
(C) Reviewing the legal disputes over property inheritance in the urban local body's jurisdiction.
(D) Performing the categorical classification of soil types using satellite imagery and field samples.

84. Identify the correct pair regarding spatial analysis techniques:
(A) Overlay Analysis – Determining the shortest driving route between two points
(B) Interpolation – Creating a buffer zone around a river
(C) Network Analysis – Calculating the area of intersecting land use polygons
(D) Viewshed Analysis – Identifying areas visible from a specific vantage point

85. A transportation planner must design an Origin-Destination (O-D) survey for a metropolitan area to model a new metro rail network. To obtain the most comprehensive data linking socio-economic status with trip generation, which specific O-D survey method should they execute?
(A) Roadside interview survey
(B) Home interview survey
(C) License plate matching survey
(D) Tag on vehicle survey

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86. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): Informal settlement surveys often map access to shared public standposts and community toilets.
Reason (R): Informal settlements usually lack individual in-house water supply and underground sewerage connections.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

87. During an environmental baseline survey for a proposed industrial estate in Madhya Pradesh, water samples from nearby tube wells were tested. The data revealed high concentrations of heavy metals. In a GIS suitability analysis for residential zoning around this estate, how should this data be applied?
(A) Zoning the affected buffer area for high-density residential development to maximize land value.
(B) Ignoring the data as groundwater quality does not typically affect spatial land use zoning decisions.
(C) Using the data to calculate the arithmetic growth rate of the industrial sector in the region.
(D) Mapping the area as a constraint layer to restrict residential development until mitigation.

88. Match the census definitions in List I with their descriptions in List II:
List I: (Census Definitions)
P. Statutory Town

Q. Census Town
R. Urban Agglomeration
S. Out Growth

List II: (Description)

1. A continuous urban spread constituting a town and its adjoining urban extensions
2. Minimum population of 5,000, 75% male working pop in non-agricultural pursuits, and density $\geq$ 400 sq.km
3. Places with a municipality, corporation, cantonment board, or notified town area committee
4. A viable unit such as a village or hamlet contiguous to a statutory town possessing urban features

(A) P-3, Q-2, R-1, S-4
(B) P-2, Q-3, R-4, S-1
(C) P-3, Q-1, R-2, S-4
(D) P-1, Q-2, R-3, S-4

89. A planner has collected air quality data (PM2.5) from 15 monitoring stations scattered across a city. To create a continuous pollution map covering the entire city area, which GIS spatial analysis technique should be applied?

(A) Network Routing analysis to determine the fastest path for air quality monitoring vehicles.
(B) Spatial Interpolation such as IDW or Kriging to estimate values between stations.
(C) Vector to Raster Conversion of the existing monitoring station point coordinates only.
(D) Viewshed Analysis to determine the visibility of monitoring stations from the city center.

90. Consider the following parameters used in watershed analysis using Digital Elevation Models (DEMs):

1. Flow direction
2. Flow accumulation
3. Traffic density
4. Stream delineation

Which of the above statement(s) is/are correct for hydrological modeling?

(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

91. The Narmada Basin in Madhya Pradesh is characterized by complex topography. If a planner is conducting a terrain analysis for regional planning in this basin, which derived maps are directly generated from a Digital Elevation Model (DEM)?

(A) Slope map, Aspect map, and Contour map
(B) Cadastral maps and land ownership maps
(C) Traffic origin-destination maps
(D) Property tax assessment maps

92. Identify the INCORRECT pair regarding sampling strategies in survey planning:

(A) Convenience Sampling – Selecting respondents based on easiest availability
(B) Snowball Sampling – Existing study subjects recruit future subjects from among their acquaintances
(C) Purposive Sampling – Randomly picking households from a generated list of random numbers
(D) Quota Sampling – Gathering representative data from a group ensuring specific sub-groups are met

93. Which open data platform, maintained by the Government of India, provides a central repository for planners to access public datasets published by various ministries, including urban development and sanitation data?

(A) Vahan Portal for motor vehicle registration data.
(B) NITI Aayog Dashboard for state-level ranking.
(C) E-Courts Services for legal case tracking.
(D) Open Government Data (OGD) Platform India.

94. Consider the following two statements and select the correct option.

Statement I: Transect walks involve planners traversing a designated path through a study area to systematically observe and map the spatial transition of land uses and socio-economic activities.

Statement II: Transect walks are purely digital processes conducted exclusively using GIS without any field visits.

(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are

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incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

95. Which of the following is NOT typically considered a limitation of historical aerial photography compared to modern digital satellite remote sensing?
(A) They often lack multispectral or hyperspectral bands beyond the visible spectrum.
(B) They offer too high of a spatial resolution, making them useless for urban area analysis.
(C) They have severe geometric distortions at the edges requiring orthorectification.
(D) They are analog by nature and require scanning and manual geo-referencing before GIS use.

96. Which of the following statements is correct regarding the Survey of India (SoI) topographical maps used as base layers in planning?
(A) SoI maps dynamically update every week through automated satellite feeds.
(B) SoI maps explicitly display the current market value of all real estate properties.
(C) SoI maps do not depict administrative boundaries or benchmark elevations.
(D) The standard scale for SoI Open Series Maps (OSM) commonly used in regional planning is 1:50,000.

97. What is an isoline map?
(A) A map depicting continuous data by connecting points of equal value.
(B) A map highlighting isolated urban settlements located in remote rural regions.
(C) A map separating industrial zones from residential areas using heavy borders.
(D) A text-based map showing only the names of major streets without geometry.

98. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): Multi-Criteria Evaluation (MCE) is a common methodology used in GIS suitability analysis for urban planning.
Reason (R): MCE allows planners to assign different weights to various spatial factors based on their relative importance to the specific development goal.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

99. An urban planner needs to present a map showing the ward-wise population density of Jabalpur. Which thematic mapping technique is the best and most standard choice for this discrete, area-aggregated data?
(A) Choropleth Map
(B) Isoline Map
(C) Network Map
(D) Flow Map

100. Match the spatial technologies in List I with their typical applications in List II:
List I: (Spatial Technologies)
P. Unmanned Aerial Vehicles (Drones)
Q. Global Positioning System (GPS)
R. Medium Resolution Satellite Imagery
S. Ground Truthing
List II: (Typical Application)
1. Validating land cover classification on site
2. Regional-scale urban sprawl analysis over decades
3. Capturing sub-centimeter imagery for micro-level slum mapping
4. Recording accurate XYZ coordinates of a street light during a field survey
(A) P-3, Q-4, R-2, S-1
(B) P-4, Q-3, R-1, S-2
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-2, R-4, S-1

101. Which of the following statements regarding the interpretation of development plans is INCORRECT?
(A) Proposed land use maps dictate the legally permissible uses of land in the future.
(B) Development plans guarantee the immediate municipal funding for all proposed infrastructures upon publication.
(C) Development Control Regulations (DCR)

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supplement the plan by providing rules on FSI, setbacks, and building heights.

(D) The base year represents the year the existing land use survey was finalized, while the horizon year is the target year for the plan.

102. Consider the following statements regarding the integration of property tax mapping with Municipal GIS:

1. It helps in the spatial visualization of tax defaulters.
2. It allows cross-referencing building footprints with approved sanction plans to identify unauthorized constructions.
3. It cannot be integrated with the municipal accounting software due to data format restrictions.
4. It facilitates equitable tax assessment by calculating exact built-up areas.

Which of the above statement(s) is/are correct?

(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

103. Identify the correct pair regarding urban planning boundaries:

(A) Municipal Boundary – The area mapped strictly for industrial zoning and heavy manufacturing activities.
(B) Planning Area Boundary – The specific polygon demarcating a single residential colony or gated housing.
(C) Cantonment Area – An area explicitly governed by the local Gram Panchayat under rural administrative laws.
(D) Urban Growth Boundary (UGB) – A line separating urbanizable land from rural land to control sprawl.

104. Consider the following two statements and select the correct option.

Statement I: Floor Space Index (FSI) indicates the total permissible built-up area on a plot, whereas Ground Coverage indicates the maximum percentage of the plot area that can be covered by the building footprint.

Statement II: A plot with 50% ground coverage and an FSI of 2.0 can theoretically accommodate a maximum of two stories (G+1) covering the entire 50% area, or four stories covering 25% area, assuming no height restrictions.

(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

105. A planner analyzes the housing prices in two different wards. Ward A has a mean price of Rs 50 Lakhs with a standard deviation of Rs 5 Lakhs. Ward B has a mean price of Rs 50 Lakhs with a standard deviation of Rs 25 Lakhs. What does this statistical data indicate?

(A) Ward A has higher price variability and significantly greater socio-economic disparity.
(B) Ward B has a wider spread in prices, indicating a diverse housing mix.
(C) Ward B has more affordable housing options than Ward A on a per-unit average basis.
(D) Housing prices in Ward A are completely uniform with zero recorded statistical variation.

106. In the city of Gwalior, the municipal corporation wants to locate a new fire station. The critical constraint is that the fire engines must reach any point in the dense core city within an 8-minute response time. Which spatial analysis tool is uniquely designed to solve this problem?

(A) Land use suitability overlay
(B) Network Analysis (Service Area calculation)
(C) Watershed delineation
(D) Density gradient mapping

107. If the Town and Country Planning Department wants to build a WebGIS platform for citizens to check the proposed land use of their Khasra numbers online, what is the most critical backend spatial data preparation required?

(A) Overlaying proposed Plan polygons over digitized cadastral maps.
(B) Calculating the exponential population growth rate of the city.
(C) Uploading plain PDFs of the relevant town planning legislation.
(D) Conducting a preference survey for

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municipal public transport.

108. The Madhya Pradesh Urban Development Company (MPUDC) executes large-scale water supply projects. During the project preparation phase, topographic data is essential for designing gravity-fed water networks. Which data source provides the most accurate and dense elevation points for this specific application?
(A) Sentinel-2 multi-spectral imagery
(B) State census demographic tables
(C) Total Station and DGPS field surveys
(D) District socio-economic handbooks

109. What fundamentally distinguishes primary data from secondary data in planning surveys?
(A) Primary data is always numerical in nature, whereas secondary data is strictly qualitative text.
(B) Primary data refers only to satellite imagery, while secondary data refers only to paper maps.
(C) Primary data is always free to access, whereas secondary data always requires a licensing fee.
(D) Primary data is collected firsthand for a specific goal, while secondary data pre-exists.

110. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer.
Assertion (A): Building Information Modelling (BIM) is largely restricted to individual architectural projects and has no conceptual overlap with urban planning.
Reason (R): Urban planning requires the analysis of complex inter-building networks, utilities, and large-scale terrains that traditional BIM software is not primarily designed to handle in isolation.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

111. Which of the following is NOT a common mobile application/platform used for GPS-based field data collection in planning surveys?
(A) ODK (Open Data Kit)
(B) AutoCAD Civil 3D
(C) KoboToolbox
(D) Survey123 for ArcGIS

112. Match the data visualization tools in List I with their appropriate use cases in List II:
List I: (Data Visualization Tool)
P. Pie Chart
Q. Line Graph
R. Bar Chart
S. Thematic Map
List II: (Appropriate Use Case)
1. Showing the changing trend of public transport ridership over 10 years
2. Comparing the absolute number of parking spaces across 5 commercial zones
3. Displaying the spatial distribution of green cover across city wards
4. Illustrating the percentage share of different land use categories in a city's total area
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-4, R-3, S-2
(C) P-4, Q-2, R-1, S-3
(D) P-2, Q-1, R-4, S-3

113. Which of the following statements regarding remote sensing software is correct?
(A) ERDAS Imagine and ENVI are specialized for analyzing and classifying imagery.
(B) Remote sensing software packages are technically incapable of processing raster data.
(C) These software tools are exclusively used for designing 2D architectural floor plans.
(D) They do not support the integration or overlay of ground truthing field points.

114. Consider the following statements distinguishing Vector and Raster data models in GIS:
1. Vector data represents features as points, lines, and polygons.
2. Raster data represents the landscape as a grid of equally sized cells or pixels.
3. Satellite imagery and Digital Elevation Models (DEMs) are typical examples of Vector data.
4. Cadastral boundaries and road networks are

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best represented using Vector data.

Which of the above statement(s) is/are correct?

(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

115. Identify the INCORRECT pair regarding population growth rate calculations:

(A) Logistic Growth – Assumes infinite resources and an infinitely expanding population.
(B) Arithmetic Growth – Constant rate of increase in the absolute number of people.
(C) Geometric Growth – Constant percentage rate of increase applied to discrete intervals.
(D) Exponential Growth – Continuous compounding of population growth over a time period.

116. Consider the following two statements and select the correct option.

Statement I: A Digital Elevation Model (DEM) is typically stored as a raster dataset where each pixel value represents the elevation of the terrain.

Statement II: DEMs are useless for delineating watersheds because water flow cannot be mathematically calculated from raster grids.

(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

117. Buffer analysis in spatial planning is best defined as:

(A) Determining the optimal number of parking spots in a commercial complex.
(B) A geoprocessing tool that creates a zone of a specified distance around a map feature.
(C) Analyzing the demographic shifts between two consecutive census periods.
(D) Balancing the municipal budget using statistical means.

118. What is the primary advantage of AutoCAD over standard GIS software in the context of urban planning?

(A) AutoCAD has superior built-in spatial databases for querying large-scale census data.
(B) AutoCAD is the preferred software for global-scale satellite image classification tasks.
(C) AutoCAD offers highly precise geometric drafting and dimensioning tools essential for engineering drawings and layout preparation.
(D) AutoCAD automatically generates 3D terrain models from raw socio-economic survey data.

119. A municipal corporation is planning a Bus Rapid Transit System (BRTS) corridor. During a public perception survey, shop owners express severe opposition citing a loss of street parking. How should the planner interpret this data?

(A) Disregard the survey as unscientific because it lacks precise geometric coordinates.
(B) Cancel the project entirely as public perception surveys hold a legal veto power.
(C) Reclassify the land use to purely residential to effectively close existing shops.
(D) Treat feedback as a constraint and evaluate mitigation like off-street parking.

120. A town planner is evaluating the land use mix ratio of a newly proposed mixed-use zoning district. The plan allocates 60% Residential, 30% Commercial, and 10% Public/Semi-Public. What analytical conclusion can be drawn from interpreting these standards?

(A) The commercial share suggests a strategy to generate employment and reduce commuting.
(B) The zone strictly adheres to heavy industrial development guidelines for manufacturing.
(C) The lack of industrial land use means the area will suffer from extreme noise pollution.
(D) The plan violates standard statistical sampling theories used in master plan preparation.

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ANSWERS

1. (A) Conducting a household socio-economic questionnaire survey in a specific ward
Primary spatial data collection involves gathering information directly from the source through fieldwork for a specific planning purpose. Conducting a household socio-economic questionnaire survey is a proactive approach where planners interact with residents to obtain first-hand details about living conditions. In contrast, using satellite imagery or census reports relies on pre-existing data, which classifies those methods as secondary.

2. (C) A is true but R is false.
The Census of India serves as a fundamental source of secondary data for planners, offering vital demographic and housing statistics collected through massive decadal counts. While the process involves extensive fieldwork, it does not utilize remote sensing or aerial photography to determine spatial land use. Its primary focus remains on socio-economic enumeration, making the reason provided scientifically inaccurate.

3. (A) Origin-Destination (O-D) survey
Determining travel patterns and predicting vehicle diversion for a new bypass road necessitates an Origin-Destination survey. This specific study tracks where trips begin and end, providing crucial insights into the desire lines of commuters. By analyzing these patterns, planners can accurately estimate the volume of traffic likely to shift from existing city routes to the proposed new infrastructure.

4. (A) P-2, Q-1, R-4, S-3
National spatial data sources serve distinct functions in the planning ecosystem. ISRO Bhuvan acts as a comprehensive geo-platform for satellite imagery, while the Survey of India provides topographical maps. The Census of India remains the authority for demographic and socio-economic data. Lastly, the National Spatial Data Infrastructure facilitates the standardized sharing of geospatial data across various different national agencies.

5. (B) Temporal resolution is the measure of the sensor's ability to discriminate extremely fine differences in energy.
Satellite imagery resolution includes spatial, spectral, radiometric, and temporal dimensions. Spatial resolution determines the smallest detectable ground feature, while spectral resolution refers to measured wavelength intervals. Radiometric resolution indicates data depth or grayscale levels. However, temporal resolution is defined by the revisit frequency of a satellite over a specific location, rather than the ability to discriminate fine energy differences.

6. (B) 2 and 3 only
Ground truthing is a vital process that verifies and calibrates interpreted land use and land cover data derived from remote sensing. It involves visiting specific sites to confirm if digital observations match physical reality. Planners frequently utilize handheld GPS devices during these field visits to record accurate spatial coordinates, ensuring the reliability of thematic maps used for development planning.

7. (D) MP Bhu-Abhilekh
In Madhya Pradesh, the official state government portal for accessing integrated spatial land records is known as MP Bhu-Abhilekh. This platform provides digital access to Khasra documents and Bhu-Naksha, which are essential cadastral maps showing plot boundaries and ownership details. Such data is critical for urban planners to verify land titles and spatial characteristics during master plan preparation.

8. (A) 3, 1, 4, 2
Conducting a socio-economic survey begins with a reconnaissance visit to define the study area boundaries. Subsequently, planners design the questionnaire and finalize the sampling framework to ensure representative data. The process continues with field data collection and on-site ground truthing. Finally, the gathered information undergoes processing, tabulation, and spatial analysis to inform the decision-making process for the town planning scheme.

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9. (B) A map using shading, coloring, or patterns within geographic boundaries.
A choropleth map is a thematic mapping technique used to represent statistical data within predefined geographic boundaries, such as administrative wards or districts. By applying different shading, colors, or patterns, this method effectively visualizes the spatial distribution and density of specific variables like population. It allows for quick comparisons across regions based on the intensity of the represented data.

10. (B) To enable participatory planning by identifying community needs and priorities.
Stakeholder and public perception surveys are essential for fostering participatory planning during the Master Plan preparation process. These surveys allow planners to identify community needs, priorities, and potential conflicts that technical surveys might overlook. By engaging various groups, the planning process becomes more inclusive, ensuring that final proposals are socially acceptable and address the actual requirements of the city residents.

11. (A) Soil survey – Determining the bearing capacity for zoning buildable land
In the context of environmental planning, different surveys target specific physical and ecological attributes. A soil survey is specifically designed to determine the physical properties and bearing capacity of land, which is critical for zoning buildable areas and ensuring structural safety. Other surveys like hydrological or vegetation studies focus on water systems and green cover, providing a comprehensive baseline.

12. (C) Structural typology (pucca, semi-pucca, kutcha) and access to basic utility networks
Assessing eligibility for in-situ slum redevelopment requires detailed information on the physical living environment. Recording the structural typology, such as whether a dwelling is pucca, semi-pucca, or kutcha, is a primary indicator of housing quality. Additionally, documenting access to basic utility networks like water and electricity is essential to determine the level of infrastructure deficit and prioritize interventions.

13. (D) Calculating the net floor area ratio (FAR) of a residential subdivision
Network analysis in GIS utilizes road and transit topologies to solve spatial problems related to connectivity and accessibility. It is instrumental for determining optimal service areas, finding shortest paths for waste collection, and assessing pedestrian movement. Conversely, calculating the Floor Area Ratio is a geometric calculation based on plot area and built-up space, which does not involve network-based topological relationships.

14. (A) Both A and R are true and R is the correct explanation of A.
Drone surveys have become a preferred tool for micro-level urban planning due to their ability to capture ultra-high-resolution imagery. Unlike satellites, drones can operate below cloud cover, providing clear visuals of dense and narrow urban patterns. This high level of detail is particularly advantageous for mapping informal settlements and complex streetscapes where standard satellite data lacks sufficient clarity.

15. (B) Stratified Random Sampling
When surveying a heterogeneous population with distinct socio-economic groups, stratified random sampling is the most appropriate method. This technique involves dividing the population into homogeneous subgroups, or strata, based on income levels or other characteristics. By sampling proportionally from each stratum, the planner ensures that high-income, middle-income, and low-income pockets are fairly represented, leading to more accurate findings.

16. (A) P-3, Q-1, R-4, S-2
Traffic surveys provide critical data for transportation planning through specific methodologies. Volume counts help determine peak hour flow and capacity utilization at intersections. Origin-destination surveys are essential for mapping travel desire lines and trip distribution. Parking surveys measure vehicle accumulation and turnover rates, while speed and delay studies identify bottlenecks and evaluate the overall level of service on urban corridors.

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17. (A) It involves superimposing thematic layers such as slope and land use to find optimal sites.
Suitability analysis in GIS is a multi-criteria approach used to identify the most appropriate locations for specific activities or developments. This technique involves superimposing various thematic layers, such as slope, land use, and environmental constraints, to evaluate potential sites. By assigning weights to these layers, planners can mathematically determine which areas best meet technical and environmental requirements for a project.

18. (B) 1, 2 and 4 only
Buffer analysis is a fundamental GIS tool used to create polygons at a specified distance around point, line, or area features. It is highly effective for enforcing setbacks around sensitive ecological zones like rivers and for identifying populations affected by noise near airports. While extremely versatile, buffers can be applied to any geometry, including linear features like highways and tracks.

19. (C) Statement I is correct but Statement II is incorrect.
Digital Elevation Models provide a three-dimensional representation of the earth's terrain, which is indispensable for watershed analysis and drainage planning. These models capture the natural topography of a landscape, including slopes and ridges, by storing elevation values in a grid format. Contrary to filtering out natural features, their primary purpose is to represent the bare-earth surface excluding trees and buildings.

20. (A) 2, 3, 1, 4
Delineating an Urban Growth Boundary begins with identifying existing built-up areas using recent satellite imagery. Planners then map environmental constraints to exclude non-developable land from the potential growth zone. Subsequently, future land requirements are estimated based on population projections and density standards. Finally, a contiguous boundary is defined that effectively accommodates the projected urban expansion while protecting surrounding rural landscapes.

21. (B) Using total stations and DGPS for contour surveying and underground radar.
Preparing Detailed Project Reports for underground sewerage systems requires precise topographic data to ensure proper gravity flow. Planners and engineers utilize total stations and Differential GPS for high-accuracy contour surveying. These tools help create detailed maps of the terrain and existing underground features, which are vital for determining the optimal alignment and depth of the proposed sewerage infrastructure systems.

22. (C) Room Density – Total number of habitable rooms divided by the total built-up area of the city
Population density can be measured through various metrics depending on the planning objective. Gross density accounts for the total city area, while net residential density focuses only on residential zones. Plot density refers specifically to the number of units on a single plot. However, room density is defined as the number of persons per habitable room, rather than a built-up area calculation.

23. (B) 5,000 sq. m.
The maximum total built-up area allowed on a plot is calculated by multiplying the plot area by the permissible Floor Space Index or Floor Area Ratio. For a commercial plot measuring 2,000 square meters with an FSI of 2.5, the calculation results in 5,000 square meters of total floor space. This metric is a primary tool used by planners to regulate density.

24. (A) Median
In the analysis of planning data, the median serves as a key measure of central tendency. It represents the specific middle value of a dataset when the observations are arranged in either ascending or descending order. This measure is particularly useful when dealing with skewed distributions, as it is less affected by extreme outliers compared to the arithmetic mean or simple average.

25. (B) The population grows at a constant percentage rate per unit of time.
The geometric growth rate method for population projection is based on the assumption that the population increases at a constant percentage

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rate over specific intervals of time. This model differs from the arithmetic method, which assumes a fixed absolute increase. Planners often use geometric projections for rapidly developing urban areas where the population follows a compound interest growth pattern over decades.

26. (A) Both A and R are true and R is the correct explanation of A.
Cadastral maps are indispensable for town planning tasks such as land acquisition and property tax assessment. These maps are prepared at a very large scale and provide precise details regarding property boundaries, individual plot dimensions, and ownership records. This high level of spatial accuracy allows authorities to identify exact parcels of land and verify legal titles when implementing development schemes.

27. (A) WebGIS dashboards with thematic maps and charts.
Communicating complex spatial changes to non-technical stakeholders requires clear and interactive visualization tools. WebGIS dashboards are highly effective for this purpose, as they present thematic maps and charts in an accessible digital format. These platforms allow users to visualize proposed land-use transitions and query specific data points easily, facilitating better understanding and more informed feedback during the public consultation process.

28. (A) P-3, Q-4, R-1, S-2
Specialized digital tools serve distinct roles in the modern planning process. QGIS is a prominent open-source software for spatial analysis and thematic mapping, while AutoCAD provides precision vector drafting for engineering layouts. UrbanSim is utilized for advanced land use and transportation modeling. Furthermore, GPS-enabled mobile applications facilitate efficient on-site field data collection with accurate spatial tagging for GIS systems.

29. (D) Implementing a Municipal GIS completely eliminates the legal requirement for ground-level property verification.
Municipal GIS systems improve revenue by linking building footprints with property tax databases, often identifying unassessed structures. These systems typically generate unique property identification numbers for better management. However, implementing such a platform does not completely eliminate the legal requirement for ground-level property verification. Field inspections remain necessary to confirm building usage and other physical characteristics that satellite imagery cannot capture.

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30. (B) 2, 3 and 4 only
3D city models and Building Information Modelling provide sophisticated capabilities for urban analysis and design. These technologies enable planners to perform solar potential studies, line-of-sight analysis, and evaluate urban aesthetics. Standard formats like CityGML facilitate the exchange of 3D data. Integrating BIM with GIS allows for a comprehensive analysis that spans from individual building interiors to large-scale city infrastructure.

31. (B) Internal master plan draft servers of state departments.
Open data sources are critical for transparent and efficient urban planning, providing free access to vital information. Planners commonly utilize services such as ISRO Bhuvan for imagery, the Survey of India for topographical maps, and the Census of India for demographic statistics. Conversely, internal master plan draft servers belonging to state departments are typically restricted and do not qualify as open data.

32. (A) 2, 4, 1, 3
Mapping land use and land cover through remote sensing begins with image acquisition and layer stacking. The next step involves pre-processing to apply radiometric and geometric corrections. Subsequently, the image undergoes classification using supervised or unsupervised methods. The final stage is an accuracy assessment, where the interpreted results are compared against ground truthing points to ensure the high reliability.

33. (A) The traffic consists primarily of heavy commercial vehicles and multi-axle trucks.
A high Passenger Car Unit value relative to the absolute number of vehicles indicates a traffic composition dominated by larger, slower vehicles. Because heavy commercial vehicles and multi-axle trucks occupy more road space and have different performance characteristics than standard cars, they are assigned higher PCU

factors. This data signals that the junction faces significant physical load from heavy transport.

34. (C) Walking a designated route to physically observe spatial and social conditions.
A transect walk is a participatory field observation method where planners traverse a specific route through a neighborhood or study area. This process allows them to systematically observe and document the physical environment, social interactions, and land-use transitions. By directly experiencing the spatial context, planners can identify local issues and assets that may not be apparent from satellite imagery or maps.

35. (A) Closed-ended multiple-choice or dichotomous questions.
For gathering standardized and easily quantifiable demographic data, planners should utilize closed-ended multiple-choice or dichotomous questions. This structured approach ensures that responses are uniform and can be efficiently coded for statistical analysis. Such data is essential for identifying trends and making evidence-based decisions during the planning process, whereas open-ended questions are better suited for qualitative feedback and insights.

36. (A) Both Statement I and Statement II are correct.
Aerial photography and satellite remote sensing are complementary tools in spatial data collection. While aerial platforms fly at lower altitudes and typically offer superior spatial resolution for detailed mapping, satellites provide a more cost-effective means for monitoring large regions over time. The multi-temporal coverage offered by satellites allows planners to track urban sprawl and land-use changes without frequent flight expenses.

37. (B) BHUVAN Panchayat
The ISRO Bhuvan geoportal hosts several specialized applications designed to support various levels of governance and development. Bhuvan Panchayat is a specific platform created to assist in decentralized planning by providing geospatial data and tools at the local administrative level. This allows rural and local bodies to utilize satellite imagery and thematic maps for resource management and planning within their jurisdictions.

38. (A) Both A and R are true and R is the correct explanation of A.
Stakeholder surveys are valuable but can be susceptible to bias because they often engage vocal interest groups and community leaders. These participants may represent specific agendas rather than the objective spatial needs of the entire population. Consequently, the views of the silent majority might be underrepresented, requiring planners to balance qualitative stakeholder feedback with objective technical data for fairness.

39. (D) Monitoring the volume and geographical spread of private real estate projects.
For a planner in Madhya Pradesh, the Real Estate Regulatory Authority portal serves as a vital source of information regarding the private housing market. It allows for the monitoring of the volume, geographical spread, and progress of registered real estate projects. This data is essential for assessing urban growth trends, housing supply dynamics, and the impact of private developments on infrastructure.

40. (A) P-2, Q-1, R-4, S-3
Various mapping techniques are employed to represent different types of spatial data. Isoline maps connect points of equal value, such as elevation contours. Dot density maps use points to show spatial concentration. Choropleth maps utilize graded colors within administrative boundaries to show statistical intensity. Finally, dasymetric maps refine aggregated data by using ancillary information to distribute values more accurately.

41. (B) Proximity and buffer analysis
Analyzing the equitable distribution of facilities like primary schools involves determining their effective service areas. By drawing a one-kilometer radius around each school, a planner utilizes proximity and buffer analysis to visualize coverage zones. This spatial technique identifies which residential areas fall within recommended walking distances and highlights unserved pockets that may require the establishment of new educational infrastructure.

42. (B) 1, 2 and 4 only
Land Use and Land Cover are distinct but related concepts in spatial mapping. Land use

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describes human activities such as residential or commercial functions, while land cover refers to physical surface materials like vegetation or asphalt. Standardized classification schemes help maintain consistency in mapping. However, determining land use typically requires more than just remote sensing imagery, often necessitating detailed ground truthing.

43. (A) Nominal Data – Categorizing land use into residential, commercial, and industrial
Statistical data variables in planning are classified based on their level of measurement. Nominal data involves categorizing items into distinct groups without any inherent order, such as classifying land use into residential or commercial zones. Ordinal data involves ranking, while interval and ratio data deal with numerical scales. Assigning names or categories is the fundamental characteristic of a nominal scale.

44. (A) 2, 4, 1, 3
Establishing a GIS-based property tax system begins with procuring high-resolution imagery to serve as a base. Planners then digitize building footprints and assign unique property identification numbers. These spatial features are subsequently linked with non-spatial tax and ownership databases to manage demand and collections. Finally, the data is published on a WebGIS portal to allow citizens to view details.

45. (D) Home Interview Survey – Conducted primarily to measure spot vehicle speeds on expressways
Transportation planning relies on specialized surveys to understand movement patterns. Cordon and screen line surveys track trips entering areas or crossing barriers, while transit surveys monitor passenger behavior. However, the home interview survey is primarily designed to gather detailed socio-economic and trip-generation data from households. It is not used for measuring vehicle spot speeds, which requires different field methodologies.

46. (C) Allowing multi-stakeholder visualization and querying of spatial data over the internet.
WebGIS platforms offer significant advantages by providing centralized access to spatial data via the internet. They allow multiple stakeholders, including government departments and the general public, to visualize, query, and interact with maps without needing specialized software. This accessibility promotes transparency and collaboration, making it easier to share development plans and collect feedback from a wide range of participants simultaneously.

47. (B) Total population divided by the entire land area of the geographic unit, regardless of land use.
Gross population density is a broad measure used to describe the overall intensity of settlement across a geographic unit. It is calculated by dividing the total population by the entire land area within the specified boundary, including all types of land uses and open spaces. This metric provides a high-level understanding of how many people reside within a city.

48. (D) Identifying the absolute total volume of daily commuter trips
Standard deviation is a statistical tool used to measure the dispersion or spread of values around a mean. In planning, it helps analyze income inequality, variance in access to services, and the spread of property values. However, identifying the absolute total volume of daily commuter trips is a sum total of events, which does not represent a measure of statistical dispersion.

49. (A) $P_t = P_0 \times e^{rt}$
Predicting future population growth using a continuous exponential model requires a specific mathematical formula. In this model, the projected population is determined by the initial population multiplied by the base of the natural logarithm raised to the product of the growth rate and time. This approach accounts for compounding growth, which is often observed in rapidly expanding urban centers.

50. (A) Both A and R are true and R is the correct explanation of A.
Modern urban planning emphasizes land-use mix over traditional single-use zoning to create more sustainable environments. By integrating residential, commercial, and recreational spaces, planners can significantly reduce trip lengths and encourage active transport like walking and cycling. This approach supports the 15-minute

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city concept, where residents can access most of their daily needs within a short walk.

51. (A) Providing sub-centimeter resolution and 3D oblique imagery of narrow street facades.
In congested urban cores like those in Indore, drone surveys are often preferred for infrastructure mapping because they offer sub-centimeter spatial resolution. Drones can capture high-detail 3D oblique imagery of narrow street facades and complex layouts that standard satellite sensors might miss. This level of precision is essential for detailed engineering plans and managing the complexities of dense environments.

52. (A) P-3, Q-1, R-2, S-4
Sampling methodologies ensure that planners collect representative data efficiently. Simple random sampling gives every member an equal chance of selection, while systematic sampling involves choosing every nth unit from a list. Stratified sampling divides a diverse population into homogeneous subgroups for better representation. Cluster sampling involves dividing an area into geographic blocks and surveying all units within randomly selected clusters.

53. (B) Framing questions about tenure and eviction history sensitively to ensure cooperation.
Designing surveys for informal settlements requires a careful and empathetic approach to ensure respondent cooperation and data accuracy. Planners must frame questions regarding sensitive issues like land tenure and eviction history with care. Avoiding overly technical jargon and focusing on the residents lived experiences helps in gathering reliable socio-economic data, which is crucial for designing effective redevelopment.

54. (B) 1, 3 and 4 only
Environmental surveys provide essential data for sustainable urban development. Soil surveys assess land suitability for construction, while vegetation surveys map green cover and canopy density. Topographical surveys are critical for understanding terrain and natural drainage. However, a comprehensive water quality survey must evaluate physical, chemical, and biological parameters to ensure safety, making any approach that ignores chemical factors insufficient.

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55. (C) Statement I is correct but Statement II is incorrect.
Field observation methods like windshield surveys are valuable for obtaining a rapid, high-level overview of neighborhood conditions and land-use patterns. While these methods provide an immediate sense of the physical environment, they cannot replace the need for detailed secondary demographic data analysis. A comprehensive Master Plan requires both direct field observations and robust statistical data to accurately understand urban challenges.

56. (B) 4, 2, 1, 3
Conducting a physical land use survey begins with finalizing the classification system to define categories like residential or commercial. Once the framework is set, a recent base map or satellite imagery is acquired to guide the fieldwork. Planners then visit the site to update these maps with current codes. Finally, the gathered data is digitized to create a GIS layer.

57. (B) Road network, groundwater table depth, distance from surface water bodies, and existing land use
Selecting a site for a new solid waste landfill involves analyzing multiple technical and environmental factors through GIS overlay techniques. The most appropriate thematic layers for this task include the existing road network for accessibility, groundwater table depth to prevent contamination, distance from surface water bodies, and current land use patterns to minimize social and ecological impacts within the area.

58. (B) To provide a framework for sharing and discovering geospatial data across departments.
The primary objective of the National Spatial Data Infrastructure in India is to create a robust framework for the discovery and sharing of geospatial data across various government departments. By standardizing data formats and protocols, NSDI ensures that spatial information is easily accessible to planners. This collaborative approach prevents duplication of efforts and promotes the efficient use of resources.

59. (A) Existing Land Use (ELU) Map overlaid on cadastral boundaries
Under the MP Nagar Tatha Gram Nivesh Adhiniyam, the Town and Country Planning

Department prepares development plans based on foundational spatial data. The core of this process is the Existing Land Use map, which is meticulously overlaid on digitized cadastral boundaries. This combination allows planners to understand current land utilization patterns at the parcel level, providing a realistic basis for proposals.

60. (C) GPS devices work perfectly in underground or indoor settings without satellite visibility.
Global Positioning Systems are essential for recording accurate geographic coordinates during field surveys. While Differential GPS offers high precision and mobile apps allow for direct integration of coordinates with survey data, the technology has limitations. GPS signals generally require a clear line of sight to a network of satellites, meaning they do not function reliably in underground or dense indoor environments.

61. (D) Collecting physical measurements on the ground to verify interpreted remote sensing data.
Ground truthing is a critical verification step in the remote sensing workflow. It involves collecting physical measurements and observations directly on the earth's surface to validate the land cover or land use classifications derived from satellite imagery. By comparing digital interpretations with physical reality, planners can ensure high accuracy and reliability of the thematic maps used in urban development projects.

62. (A) Both A and R are true and R is the correct explanation of A.
Network analysis in GIS is a powerful tool for assessing the accessibility and efficiency of public transport systems. It uses the mathematical topology of roads and transit lines to calculate travel times and service area distances based on specific impedances. This allows planners to identify areas with poor connectivity and model the impact of new routes on the transit network.

63. (B) MS PowerPoint
Urban modeling involves specialized software designed to simulate spatial scenarios and project future growth patterns. Tools like UrbanSim, CommunityViz, and SLEUTH are specifically built for analyzing complex land-use and transportation interactions. In contrast, MS PowerPoint is a general-purpose presentation software used for communicating ideas, but it lacks the analytical and computational capabilities required for sophisticated urban modeling and simulation.

64. (A) P-4, Q-3, R-1, S-2
Remote sensing data is defined by four types of resolution. Spatial resolution refers to the ground area represented by a single pixel, while spectral resolution denotes the number and width of wavelength bands recorded. Temporal resolution is the satellite's revisit frequency over the same location. Radiometric resolution describes the sensor's sensitivity to energy magnitude, often represented as the bit depth.

65. (A) An open-source GIS application used for analyzing and viewing geospatial data.
QGIS is a widely used open-source desktop application designed for the viewing, editing, and analysis of geospatial data. It supports various vector and raster formats and provides a platform for creating high-quality thematic maps. Its extensible nature, supported by a global community of developers, makes it a powerful and cost-effective tool for urban planners performing complex spatial analysis.

66. (B) 1, 2 and 4 only
A base map serves as the primary spatial reference for all planning activities, providing the foundation for overlaying thematic data. Standard elements include contours, water bodies, and road networks. The precision of a development plan is directly tied to the accuracy of its base map. However, urban planning base maps are typically prepared at large scales, rather than very small scales.

67. (A) Khasra – A register detailing land ownership, crop details, and plot area
Understanding land records terminology is essential for planners working with cadastral data in India. A Khasra is a fundamental register that provides detailed information about land ownership, specific crops grown, and the total area of each plot. This document, alongside maps like the Bhu-Naksha, forms the legal basis for identifying property boundaries and verifying land titles in schemes.

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68. (C) Statement I is correct but Statement II is incorrect.
The arithmetic method of population projection assumes that a city's population will grow by a constant absolute number in each successive period. While this method is simple to apply, it often underestimates growth in rapidly expanding urban areas. In contrast, the geometric method, which assumes a constant percentage increase, generally yields much higher projected figures for rapidly growing cities.

69. (B) Community Viz – Extension for statistical processing of non-spatial census data in SPSS
Various software tools support different aspects of the planning process. ArcGIS is a leading commercial GIS platform, while AutoCAD is essential for precision drafting and layout preparation. WebGIS enables internet-based dissemination of spatial data. However, Community Viz is actually a specialized GIS extension used for interactive land-use planning and scenario simulation, rather than a tool for processing non-spatial census data.

70. (C) 3D City Modelling and shadow analysis in GIS/BIM
Evaluating the impact of a high-rise building on the sunlight exposure of adjacent blocks requires advanced spatial analysis. 3D City Modelling, often integrated with GIS or Building Information Modelling, allows planners to perform detailed shadow analysis throughout the day and across seasons. This digital approach provides a precise visualization of how the proposed structure will affect the natural light.

71. (D) Precision vector drafting and dimensioning tools
When drafting residential layouts, planners must ensure that dimensions and road widths comply strictly with local building bye-laws. AutoCAD is the preferred tool for this task because of its precision vector drafting and dimensioning features. These tools allow for the creation of exact geometric representations, ensuring that every plot and street is designed to the required technical specifications.

72. (A) Industrial adjacent to Residential
In Indian urban planning practice, standardized color codes are used to represent different land uses on development plans. Purple is typically used to designate industrial areas, while yellow represents residential zones. Observing these colors adjacent to each other on a map indicates a proposed spatial arrangement where manufacturing activities are located near housing, necessitating careful consideration of potential environmental impacts.

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73. (B) IRS (Resourcesat/Cartosat)
The ISRO Bhuvan portal is the primary gateway for accessing Indian Earth observation data. It provides free optical imagery derived from the Indian Remote Sensing satellite missions, specifically the Resourcesat and Cartosat series. These satellites offer various resolutions suitable for different planning scales, ranging from regional land-cover analysis to detailed urban studies, supporting a wide array of geospatial applications.

74. (C) A is true but R is false.
In housing condition surveys, structures are categorized as 'Pucca', 'Semi-Pucca', or 'Kutcha' based on the materials used for their construction. This classification focuses on the physical durability and quality of the building's walls and roof. Contrary to the reason provided, this structural assessment is independent of the legal ownership status or tenure of the land on which the house stands.

75. (A) A real-time spatial dashboard integrating data from sensors, cameras, and civic services.
Within the Integrated Command and Control Centres established under the Smart Cities Mission, GIS serves as a critical spatial backbone. It acts as a real-time dashboard that integrates and visualizes data from various sources, including surveillance cameras, environmental sensors, and civic service reports. This spatial integration enables city administrators to monitor urban operations effectively and respond to emergencies quickly.

76. (A) P-3, Q-1, R-4, S-2
Statistical tools are essential for interpreting planning data. The mean is used to calculate averages, such as per capita water consumption. The mode identifies the most frequent occurrence, like a common housing type. Standard deviation measures variability or disparity in values like

income. Correlation analysis helps determine the strength of relationships between variables, such as distance and land value.

77. (D) Their source code is public, allowing users to modify software and develop custom plugins.
Open-source GIS platforms like QGIS offer a flexible and transparent alternative to proprietary software. Their source code is publicly accessible, allowing users to modify the software and develop custom plugins to meet specific planning needs. These tools are fully capable of processing complex data models and do not require expensive annual subscriptions, making them highly accessible for government and research.

78. (A) 1, 2 and 3 only
Drones have revolutionized urban data collection by providing high-resolution orthomosaics essential for property mapping. Creating these maps requires specialized photogrammetry software to stitch individual images together. In India, drone operations must strictly follow Digital Sky regulations regarding airspace zoning. However, while drones are excellent for exterior mapping, they cannot penetrate thick concrete structures to map internal floor plans.

79. (D) They are exclusively quantitative and do not permit open-ended responses.
Public perception and stakeholder surveys are vital for assessing policy acceptability and identifying community conflicts. These surveys utilize both quantitative and qualitative methodologies to gather a comprehensive range of insights. Qualitative methods like Focus Group Discussions allow participants to provide detailed feedback. Therefore, claiming that these surveys are exclusively quantitative and forbid open-ended responses is an incorrect characterization.

80. (A) Both Statement I and Statement II are correct.
Topographical sheets from the Survey of India and cadastral maps serve different but complementary roles in planning. SoI maps focus on natural and man-made features and terrain elevations but do not show individual property boundaries. In contrast, cadastral maps are designed to show precise property limits and ownership details but generally lack the contour lines necessary for topographical analysis.

81. (A) The ratio of the total built-up area of all floors to the total area of the plot.
Floor Area Ratio and Floor Space Index are critical regulatory tools used to control the intensity of development on a piece of land. These metrics are defined as the ratio of the total built-up area across all floors of a building to the total area of the plot. By setting FSI limits, planning authorities can effectively manage urban density.

82. (C) Real-time traffic volume data on national highways
The Census of India provides an extensive array of socio-economic and demographic data essential for long-term urban planning. Planners derive ward-wise population distributions, housing conditions, and occupational structures from these tables. However, the census is a decadal exercise and does not collect real-time information, such as traffic volumes on highways, which must be gathered through specialized field surveys.

83. (A) Studying continuous spatial changes like the drop in population density from city core to edge.
Gradient analysis is a specialized spatial technique used to study how a particular variable changes continuously across a landscape. In an urban context, it is most appropriately used to analyze patterns such as the gradual decrease in population density from the dense city core to the peri-urban edge. This method helps planners visualize and understand transitional zones and sprawl dynamics.

84. (D) Viewshed Analysis – Identifying areas visible from a specific vantage point
Spatial analysis techniques are designed to solve specific geographic problems. Viewshed analysis is used to identify all areas visible from a particular vantage point, which is useful for aesthetic and security planning. Other techniques include network analysis for routing and overlay analysis for site suitability, each serving a distinct and vital purpose in the professional urban planner's analytical toolkit.

85. (B) Home interview survey
Designing a new metro rail network requires a deep understanding of the relationship between socio-economic status and trip-generation patterns. The home interview survey is the

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most comprehensive method for this task, as it gathers detailed information about all trips made by household members alongside their demographic profiles. This level of detail is essential for modeling future public transit demand accurately.

86. (A) Both A and R are true and R is the correct explanation of A.
Mapping access to shared facilities like public standposts and community toilets is a priority in informal settlement surveys. This is because these areas often lack individual, in-house connections for water supply and underground sewerage systems. Documenting these shared services is essential for planners to understand the actual level of infrastructure deprivation and to design effective interventions for improving standards.

87. (D) Mapping the area as a constraint layer to restrict residential development until mitigation.
During a GIS suitability analysis, discovering high concentrations of heavy metals in groundwater serves as a critical environmental indicator. This information should be mapped as a constraint layer to restrict or prohibit residential development in the affected areas. Using this data helps prevent public health risks and ensures that future land-use decisions are based on the actual environmental safety.

88. (A) P-3, Q-2, R-1, S-4
The Census of India uses specific criteria to classify urban areas. Statutory towns are those with a local government body. Census towns meet specific population and occupational thresholds despite lacking a formal municipality. Urban agglomerations represent continuous urban spreads across boundaries. Outgrowths are viable units contiguous to a statutory town that possess urban features but are legally classified as separate entities.

89. (B) Spatial Interpolation such as IDW or Kriging to estimate values between stations.
To create a continuous map from discrete monitoring points, such as air quality stations, planners use spatial interpolation techniques like Inverse Distance Weighting or Kriging. These methods mathematically estimate the values for unmeasured locations based on known values of nearby stations. This approach allows for the visualization of pollution trends across the entire city, helping to identify hotspots.

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90. (B) 1, 2 and 4 only
Hydrological modeling using Digital Elevation Models relies on several key parameters to understand water movement across a landscape. Flow direction and flow accumulation are fundamental calculations that determine how water traverses the terrain. These steps lead to stream delineation, which maps the natural drainage network. In this context, traffic density is a socio-economic variable that does not influence hydrology.

91. (A) Slope map, Aspect map, and Contour map
Terrain analysis for regional planning in complex topographies, such as the Narmada Basin, utilizes Digital Elevation Models to generate critical spatial data. From a raw DEM, planners can directly derive slope maps to understand steepness, aspect maps to determine the orientation of slopes, and contour maps to visualize elevation intervals. These derived layers are essential for identifying land.

92. (C) Purposive Sampling – Randomly picking households from a generated list of random numbers
Sampling strategies are chosen based on the goals of a survey. Convenience and snowball sampling rely on accessibility and networks, while quota sampling ensures specific group representation. However, purposive sampling involves the deliberate selection of subjects based on specific characteristics relevant to the study. It is a non-random method and does not involve picking households from a list of random numbers.

93. (D) Open Government Data (OGD) Platform India.
The Open Government Data Platform India serves as a centralized repository for accessing public datasets published by various ministries and departments. It provides planners with a wealth of information, including urban development statistics and sanitation data, in machine-readable formats. This platform is designed to promote transparency and facilitate the use of government data for research, planning, and innovative applications.

94. (C) Statement I is correct but Statement II is incorrect.
Transect walks are a vital field-based methodology where planners walk through a study area to systematically observe and record the physical and social landscape. This process provides a nuanced understanding of land-use transitions that cannot be achieved through digital analysis alone. Contrary to being a purely digital process, the value of a transect walk lies in the direct engagement.

95. (B) They offer too high of a spatial resolution, making them useless for urban area analysis.
Historical aerial photographs are valuable archives but have several technical limitations compared to modern satellite data. They are often analog, requiring scanning, and typically lack multispectral bands. They also suffer from geometric distortions requiring correction. However, their high spatial resolution is actually a significant advantage for detailed urban analysis, and it is never considered a limitation that makes them useless.

96. (D) The standard scale for SoI Open Series Maps (OSM) commonly used in regional planning is 1:50,000.
Topographical maps prepared by the Survey of India provide a fundamental spatial reference for planning. The standard scale for the Open Series Maps, which are commonly used for regional planning and large-scale geographic analysis, is 1:50,000. These maps depict essential features such as terrain, water bodies, and administrative boundaries, offering a consistent and reliable base for various studies.

97. (A) A map depicting continuous data by connecting points of equal value.
An isoline map is a thematic mapping technique used to represent continuous data across a surface. It functions by connecting different geographic points that share the same numerical value for a specific variable. Common examples include contour lines for elevation or isotherms for temperature. This method allows planners to visualize gradients and patterns in spatially continuous phenomena over a large area.

98. (A) Both A and R are true and R is the correct explanation of A.
Multi-Criteria Evaluation is a fundamental methodology used within GIS for conducting complex suitability analyses. It allows planners to evaluate multiple spatial factors simultaneously to find the best locations for development. By assigning different weights to these factors based on their relative importance, planners can reflect specific project goals and constraints, leading to more robust and transparent spatial decision-making.

99. (A) Choropleth Map
For representing discrete data that has been aggregated within administrative boundaries, such as ward-wise population density, the choropleth map is the standard choice. By using a series of graded colors or patterns, this technique allows planners to easily visualize the intensity of data across the city. This helps in identifying high-density areas and comparing patterns between different wards.

100. (A) P-3, Q-4, R-2, S-1
Modern spatial technologies serve diverse planning needs. Drones capture ultra-high-resolution imagery for micro-level mapping, while GPS is used to record precise coordinates during field surveys. Medium-resolution satellite imagery is ideal for analyzing urban sprawl at a regional scale over decades. Ground truthing remains the essential final step to validate the accuracy of classifications by verifying digital data on site.

101. (B) Development plans guarantee the immediate municipal funding for all proposed infrastructures upon publication.
Development plans are legal documents that dictate future land use and provide a framework for urban growth. They include regulations on density and building heights and operate between a base year and a horizon year. However, the publication of a plan does not guarantee immediate municipal funding. Implementation depends on subsequent budgetary allocations, detailed project reports, and the availability of resources.

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102. (B) 1, 2 and 4 only
Integrating property tax mapping with a Municipal GIS offers several advantages for management. It enables the visualization of tax defaulters and allows for the identification of unauthorized constructions by comparing footprints with approved plans. This spatial approach also ensures equitable assessment by providing accurate built-up area calculations. Modern GIS systems are designed to be interoperable and can be integrated with accounting.

103. (D) Urban Growth Boundary (UGB) – A line separating urbanizable land from rural land to control sprawl.
Different administrative and planning boundaries serve specific regulatory functions. The Urban Growth Boundary is a strategic line used by planners to separate urbanizable land from rural and agricultural areas. Its primary purpose is to control urban sprawl and promote more compact and efficient development. Other boundaries define jurisdictions and the specific laws that govern those geographic regions.

104. (A) Both Statement I and Statement II are correct.
FSI and ground coverage are distinct yet interrelated controls for regulating building volume and plot utilization. While FSI limits the total built-up area across all floors, ground coverage specifies the maximum footprint of the building on the plot. A project with an FSI of 2.0 and 50% coverage could theoretically be built as two floors at 50% or more.

105. (B) Ward B has a wider spread in prices, indicating a diverse housing mix.
Statistical analysis of housing prices in different wards provides insights into market diversity. While both wards share the same mean price, the significantly higher standard deviation in Ward B indicates a much wider spread in costs. This suggests that Ward B contains a more diverse mix of housing types and price points compared to the more uniform pricing in Ward A.

106. (B) Network Analysis (Service Area calculation)
Locating a new fire station based on specific response time constraints requires solving a travel-time problem over a road network. Network analysis, specifically the service area calculation, is the tool designed for this task. It models distance or time reachable from a facility along the street network, allowing planners to identify locations that ensure all parts are within reach.

107. (A) Overlaying proposed Plan polygons over digitized cadastral maps.
To allow citizens to check proposed land use for their property online, planners must perform a precise spatial overlay. This involves superimposing the proposed land-use polygons from the development plan onto digitized cadastral maps containing individual Khasra numbers. This backend data integration enables the WebGIS platform to accurately report the planned designation for any searched plot within the study area.

108. (C) Total Station and DGPS field surveys
Designing gravity-fed water supply networks requires highly accurate and dense elevation data to ensure proper flow. For these engineering applications, field-based surveys using Total Stations and Differential GPS are the most reliable sources. These tools provide centimeter-level accuracy for topographic points and contours, which is far superior to coarse elevation data derived from satellite imagery or regional handbooks.

109. (D) Primary data is collected firsthand for a specific goal, while secondary data pre-exists.
The fundamental distinction between primary and secondary data lies in the source and purpose of the collection. Primary data is gathered firsthand by the planner through surveys, interviews, or observations specifically for the current project. In contrast, secondary data refers to information that already exists, having been collected previously by other agencies for different purposes, such as published census reports.

110. (D) A is false but R is true.
The assertion that BIM is restricted to individual architecture and lacks conceptual overlap with urban planning is incorrect. In reality, modern planning increasingly integrates BIM data to analyze building-scale details within the broader city context. The reason provided is true, as planning does indeed require managing complex

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networks and large terrains, which is why the integration is so valuable.

111. (B) AutoCAD Civil 3D
Field data collection has been streamlined by several GPS-enabled mobile platforms. Tools like ODK Collect, KoboToolbox, and Survey123 allow planners to record spatial and attribute data directly on smartphones or tablets. Conversely, AutoCAD Civil 3D is a desktop-based engineering design and documentation software. While it handles spatial data, it is not used as a mobile application for surveys.

112. (A) P-4, Q-1, R-2, S-3
Choosing the right visualization tool is essential for effective data communication. Pie charts are ideal for showing percentage shares, like land-use categories. Line graphs effectively display trends over time, such as transit ridership. Bar charts are used for comparing absolute values across different categories. Thematic maps are the primary tool for illustrating the spatial distribution of variables like green cover.

113. (A) ERDAS Imagine and ENVI are specialized for analyzing and classifying imagery.
Specialized remote sensing software packages like ERDAS Imagine and ENVI are specifically designed for the complex task of analyzing and classifying satellite imagery. These tools provide advanced algorithms for processing raster data, performing atmospheric corrections, and conducting supervised classifications. They are essential for turning raw satellite data into meaningful thematic information, such as land use maps, and support GIS.

114. (B) 1, 2 and 4 only
In GIS, the vector and raster models represent spatial data in different ways. The vector model uses points, lines, and polygons to represent discrete features like property boundaries and roads. The raster model uses a grid of pixels to represent continuous surfaces. Satellite imagery and elevation models are examples of raster data, while cadastral maps are best represented using vector.

115. (A) Logistic Growth – Assumes infinite resources and an infinitely expanding population.
Population projection methods are based on different mathematical assumptions. Arithmetic and geometric methods assume constant absolute or percentage increases, respectively. Exponential growth assumes continuous compounding over time. However, the logistic growth model is based on the concept that population growth slows down as it approaches a carrying capacity or saturation limit, rather than assuming infinite resources and an infinitely expanding population.

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116. (C) Statement I is correct but Statement II is incorrect.
Digital Elevation Models are typically stored as raster datasets where each pixel contains an elevation value. This format is far from useless for hydrological modeling; in fact, it is the primary data source used for delineating watersheds. By applying algorithms to calculate slope and flow direction between adjacent pixels, planners can accurately model how water moves across the terrain surface.

117. (B) A geoprocessing tool that creates a zone of a specified distance around a map feature.
Buffer analysis is a core geoprocessing tool in GIS used to create a new polygon at a specific distance around an existing map feature. Whether applied to a point, line, or area, the buffer identifies the zone of influence or a required setback. This technique is essential for environmental protection, noise assessment, and ensuring specific activities are located appropriately.

118. (C) AutoCAD offers highly precise geometric drafting and dimensioning tools essential for engineering drawings and layout preparation.
The primary advantage of AutoCAD in urban planning lies in its specialized tools for precision geometric drafting and dimensioning. While GIS software is superior for spatial analysis and large-scale data management, AutoCAD is indispensable for creating detailed engineering drawings, subdivision layouts, and site plans. It ensures every line is drafted with the exact measurements required for construction and legal documentation.

119. (D) Treat feedback as a constraint and evaluate mitigation like off-street parking.
Planners must carefully interpret public perception surveys to balance community concerns with project goals. In the case of opposition to a BRTS corridor due to parking loss, the feedback should be treated as a significant constraint. The planner should evaluate potential mitigation strategies, such as providing off-street parking, rather than disregarding data or canceling the project without exploring solutions.

120. (A) The commercial share suggests a strategy to generate employment and reduce commuting.
Analyzing the land use mix ratio of a proposed district allows planners to understand its future functional dynamics. A plan allocating 30% to commercial use suggests a clear strategy to generate local employment and reduce the need for long-distance commuting. This balanced mix promotes a more self-contained neighborhood, which is a key principle of sustainable and efficient development.

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CHAPTER 03

Planning Process and Forecasting Methods

1. Which of the following methods of population projection assumes that the rate of population growth is a function of the difference between the actual population and the maximum carrying capacity of the area?
(A) Arithmetic Progression Method
(B) Logistic Curve Method
(C) Geometric Progression Method
(D) Exponential Method

2. Consider the following statements regarding the Cohort-Component method of population projection:
1. It projects population by treating it as a single aggregate mass rather than separating it by demographics.
2. It accounts for births, deaths, and net migration separately for each age-sex group.
3. The method requires detailed age-specific fertility and mortality rates.
4. It is generally less accurate than the arithmetic method for long-term demographic forecasting.

Which of the statements given above are correct?
(A) 1 and 2 only
(B) 2 and 3 only
(C) 1, 3 and 4 only
(D) 2, 3 and 4 only

3. If a rapidly developing urban node exhibits a constant percentage of growth per decade due to steady industrial investments, which population projection method would mathematically yield the most representative forecast for the next two decades?
(A) Geometric Progression Method
(B) Arithmetic Progression Method
(C) Apportionment Method
(D) Decreasing Rate of Growth Method

4. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): According to the Economic Base Theory, an increase in non-basic employment drives the long-term economic growth of an urban area.
Reason (R): Non-basic employment serves local demand and recycles money within the regional economy without bringing in external revenue.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

5. In the context of a town planner analyzing the rapid influx of population into Indore from surrounding rural districts, which of the following push-pull dynamics most accurately describes the primary migration driver under economic base analysis?
(A) Expansion of basic sector industries in Pithampur pulling semi-skilled labour
(B) High agricultural yields in rural Malwa pushing surplus wealth to Indore
(C) Saturation of unorganized sector employment in Indore pushing out native workers
(D) Rural-to-urban migration driven strictly by non-basic tertiary employment

6. Match List-I with List-II and select the correct answer using the codes given below:
List I: (Forecasting Variable)
P. Dwelling unit projections
Q. Income and expenditure projections
R. Labour force participation
S. Urbanisation rate forecasting
List II: (Key Determinant/Method)
1. Working-age demographic profile and gender ratio
2. Average household size trends and obsolescence rate
3. Rural-urban migration and reclassification

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of settlements
4. Regional GDP growth and inflation indices

(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-1, Q-4, R-2, S-3

7. Which of the following statements is INCORRECT regarding labour force participation analysis in urban forecasting?
(A) It represents the proportion of the working-age population that is actively engaged in or seeking employment.
(B) A high dependency ratio generally corresponds to a higher labour force participation rate.
(C) Changes in female education and cultural shifts heavily influence the forecasting of this rate over time.
(D) It is a critical input for estimating future commercial and industrial land demand.

8. Consider the following statements:
Statement I: A declining trend in average household size, despite a stable overall population, leads to an increased demand for total dwelling units.
Statement II: Smaller household sizes naturally require higher per capita floor space and generate less aggregated residential land demand.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

9. Arrange the following steps of demographic forecasting using the Cohort-Component Method in the correct chronological order:
1. Application of assumed future age-specific survival and fertility rates.
2. Establishment of a base-year population distributed by age and sex cohorts.
3. Addition of projected net migration for each specific cohort.
4. Calculation of the final projected population by summing all forecasted cohorts.

Which of the following is the correct sequence?
(A) 2-1-3-4
(B) 1-2-4-3
(C) 2-3-1-4
(D) 3-1-2-4

10. Which of the following pairs is correctly matched regarding demographic and economic forecasting concepts?
(A) Base Multiplier - Ratio of total employment to basic employment
(B) Basic Sector - Activities producing goods strictly for local consumption
(C) Non-Basic Sector - Export-oriented manufacturing units
(D) Dependency Ratio - Ratio of employed persons to unemployed persons

11. What is the most appropriate primary purpose of conducting income and expenditure projections during the preparation of a development plan?
(A) To strictly determine the exact property tax rates for the upcoming decade
(B) To assess the affordability of housing and willingness to pay for civic amenities
(C) To mandate uniform salary structures for private sector employees in the city
(D) To dictate the exact square footage of individual commercial retail plots

12. A town planner is tasked with projecting the population for a heritage town where land is fully built-up, geographical expansion is physically restricted by surrounding protected forests, and historical growth has dramatically slowed down. Which mathematical projection method is most competent for this scenario?
(A) Geometric Progression Method
(B) Logistic Curve Method
(C) Exponential Growth Method
(D) Arithmetic Progression Method

13. In the classification of urban land use systems, which organization or standard provides the specific hierarchical categorization of "Residential, Commercial, Manufacturing, Public and Semi-Public, and Recreational" tailored for Indian Development Plans?
(A) URDPFI Guidelines for Indian Development Plans
(B) National Building Organization (NBO) standards for housing
(C) Bureau of Indian Standards (BIS) infrastructure codes
(D) MoEFCC guidelines for urban

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environmental management

14. Consider the following statements regarding the estimation of land demand for residential uses:
1. It is directly proportional to projected population and inversely proportional to planned density.
2. It completely excludes the land required for neighbourhood-level public utilities.
3. It must account for a vacancy rate to ensure market fluidity.
4. It relies solely on arithmetic progression techniques regardless of migration.

Which of the statements given above are correct?
(A) 1 and 3 only
(B) 2 and 4 only
(C) 1, 2 and 3 only
(D) 1, 3 and 4 only

15. If a master plan proposes to increase the Floor Area Ratio (FAR) in the central business district while keeping the ground coverage constant, what is the direct spatial implication on the built-up density norms?
(A) Decreased overall density leading to reduced service demand
(B) Neutral spatial impact with no change in ground coverage
(C) Immediate land conversion from commercial to residential use
(D) Increased vertical density requiring higher infrastructure capacity

16. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): Remote sensing is an ineffective tool for detecting decadal urban land use changes in densely populated metropolitan areas.
Reason (R): High-resolution satellite imagery cannot differentiate between temporal changes in built-up areas and vegetative cover indices over time.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) Both A and R are false.

17. Under the provisions of the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam (MPTGNP Act) 1973, what is the primary mandate immediately following the constitution of a planning area for preparing a development plan?
(A) Implementation of Town Planning Schemes
(B) Preparation of an Existing Land Use (ELU) map and register
(C) Direct acquisition of agricultural land for industrial nodes
(D) Allotment of housing board flats to economically weaker sections

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18. Match List-I with List-II and select the correct answer:
List I: (Land Use Category per URDPFI)
P. Public and Semi-Public
Q. Recreational
R. Transport and Communication
S. Commercial
List II: (Typical Sub-category/Element)
1. Wholesale markets and godowns
2. Educational and medical institutions
3. Regional parks and botanical gardens
4. Bus terminals and parking lots
(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-2, Q-4, R-3, S-1
(D) P-1, Q-3, R-4, S-2

19. Which of the following statements is INCORRECT regarding the preparation of a Land Budget in a development plan?
(A) It dictates the absolute limits of state financial expenditure for acquiring private land.
(B) It is a quantitative statement allocating total available land among various proposed uses.
(C) It ensures that the sum of all allocated land percentages equals 100 percent of the planning area.
(D) It incorporates URDPFI guidelines to balance residential, commercial, and open space requirements.

20. Consider the following statements:
Statement I: Land suitability analysis uses spatial overlay techniques to identify the most appropriate locations for specific future land uses based on multi-criteria variables.

Statement II: Parameters such as slope, soil bearing capacity, and proximity to fault lines are strictly excluded from land suitability analysis to simplify the process.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

21. Which of the following best describes the concept of "Carrying Capacity Analysis" in the context of urban land use planning?
(A) Assessing development intensity sustainable without degradation
(B) Determining the maximum weight of commercial transport vehicles
(C) Evaluating the total financial budget carryover for the year
(D) Calculating the annual volume of goods for industrial zones

22. Which of the following pairs is INCORRECTLY matched regarding land use surveys?
(A) Cadastral Map - Shows boundaries and ownership of land parcels
(B) Topographical Map - Shows natural and man-made physical features
(C) Ground Truthing - Field verification of remote sensing data
(D) NBO Classification - Guidelines focused primarily on smart city digital infrastructure

23. What is the most appropriate approach to managing industrial land demand estimation for a city transitioning from a manufacturing economy to a service-based IT economy?
(A) Linearly project past manufacturing land consumption rates
(B) Shift parameters toward high-FAR mixed-use IT park zones
(C) Allocate half of developable land to forced heavy industries
(D) Ban all industrial land use categories in the new master plan

24. A town planner is tasked with calculating the residential land demand for a new satellite town. The projected population is 1,00,000, and the target gross residential density is 250 persons per hectare. If residential use is to occupy 40% of the total developable area, what will be the total developable area required for the town?
(A) 400 Hectares
(B) 800 Hectares
(C) 1000 Hectares
(D) 1200 Hectares

25. What is the term used to describe the preliminary document in plan preparation that defines the purpose, scope, deliverables, and timeline of the planning project?
(A) Existing Land Use Register
(B) Draft Development Plan
(C) Post-occupancy Evaluation
(D) Terms of Reference (ToR)

26. Consider the following activities involved in the "Situation Analysis and Issues Identification" stage of plan preparation:
1. Conducting a SWOT analysis of the planning area.
2. Reviewing the implementation status of the previous master plan.
3. Finalizing the exact boundaries of Town Planning Schemes.
4. Analyzing primary and secondary demographic data.

Which of the statements given above are correct?
(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

27. During the formulation of a Development Plan, concept plans and alternative plans are generated. What is the primary analytical application used to select the best alternative?
(A) Minimizing public participation to accelerate the approval process
(B) Multi-criteria analysis weighing environmental and social impacts
(C) Arbitrary selection based on the lowest cartographic labor cost
(D) Choosing alternatives that completely ignore URDPFI standards

28. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): The formulation of a Vision Statement must precede the development of

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detailed goals and objectives in the planning process.
Reason (R): A Vision Statement provides the overarching future aspiration for the city, which goals and objectives break down into measurable and actionable targets.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

29. In the context of Madhya Pradesh, which nodal agency is primarily responsible for the preparation of Development Plans (Master Plans) under the MPTGNP Act 1973?
(A) Directorate of Town and Country Planning (T&CP)
(B) Madhya Pradesh Housing and Infrastructure Board
(C) Real Estate Regulatory Authority (MP RERA)
(D) Madhya Pradesh Urban Development Company (MPUDC)

30. Match List-I with List-II and select the correct answer:
List I: (Stage of Plan Preparation)
P. Base Map Preparation
Q. Public Participation
R. Draft Development Plan Preparation
S. Implementation
List II: (Key Activity/Output)
1. Formulation of Zoning Regulations
2. Processing of Objections and Suggestions
3. Delineation of physical features and property boundaries
4. Execution of Town Planning Schemes (TPS)
(A) P-3, Q-2, R-1, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-4, S-1

31. Which of the following statements is INCORRECT regarding the finalization and notification process of a Development Plan?
(A) The Draft Plan must be published to invite public objections and suggestions for a statutory period.
(B) A hearing committee is typically constituted to review the valid public objections.
(C) The approved plan is officially notified in the state gazette.
(D) Once the state government approves the Final Development Plan, it holds no legal binding force.

32. Consider the following statements:
Statement I: Base maps for urban development plans require high spatial resolution to accurately depict cadastral boundaries and existing physical infrastructure.
Statement II: Modern base map preparation exclusively relies on manual ground surveys, completely discarding Geographic Information Systems (GIS) and Remote Sensing.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

33. Arrange the following stages of plan preparation in the correct chronological order:
1. Situation analysis and issues identification
2. Scoping and terms of reference
3. Finalization, notification, and approval
4. Draft development plan preparation
Which of the following is the correct sequence?
(A) 2-1-4-3
(B) 1-2-3-4
(C) 2-4-1-3
(D) 4-1-2-3

34. Which of the following pairs is correctly matched regarding plan implementation tools?
(A) Zoning - Mechanism for pooling land and redistributing plots
(B) TPS - Statutory guidelines restricting the building parameters
(C) Eminent Domain - Voluntary surrender of land without compensation
(D) TDR - Granting buildable area that can be sold or used elsewhere

35. What is the most appropriate strategy for ensuring effective public participation during the plan preparation phase?
(A) Continuous engagement through digital and physical platforms
(B) Restricting consultations to the final

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approval stage only
(C) Only consulting real estate developers and large corporations
(D) Publishing the plan in a foreign language to limit feedback

36. An Assistant Town Planner is tasked with integrating a newly proposed Metro Rail corridor into the Draft Development Plan of Bhopal. At which stage of the plan preparation should the primary integration of this corridor and its transit-oriented development (TOD) norms logically occur?
(A) During Post-occupancy evaluation
(B) After Final notification and gazette publication
(C) During Concept plan and alternative plan preparation
(D) During the formulation of the Terms of Reference

37. What is defined as the systematic process of collecting data on building performance and user satisfaction after a building or development project has been built and occupied?
(A) Post-Occupancy Evaluation
(B) Environmental Impact Assessment
(C) Scoping and Terms of Reference
(D) Cost-Benefit Analysis

38. Consider the following elements included in the Service Level Benchmarks (SLBs) formulated by the Ministry of Housing and Urban Affairs (MoHUA):
1. Coverage of water supply connections
2. Extent of non-revenue water (NRW)
3. Number of high-rise commercial buildings constructed
4. Efficiency in collection of municipal solid waste

Which of the statements given above are correct?
(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

39. Under the concept of Adaptive Planning, if mid-term review indicators show that a city is growing linearly along a highway rather than in the planned concentric zones, how should the planning authority apply feedback loops?
(A) Ignore the data until the end of the 20-year master plan
(B) Adjust regulations dynamically to manage linear growth
(C) Revoke citizenship of individuals migrating to highway zones
(D) Completely halt all municipal services to the entire city

40. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): Traffic Impact Assessment (TIA) is a mandatory requirement for large-scale commercial developments like shopping malls.
Reason (R): Large commercial nodes act as major trip generators, and without a TIA, the surrounding road network's carrying capacity could be severely compromised.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

41. In evaluating the performance of urban local bodies in Madhya Pradesh under the Smart Cities Mission, which tool is predominantly promoted for centralized data collection, real-time monitoring of civic services, and providing a data dashboard for decision-makers?
(A) TPS - Mechanism for pooling and redistributing land plots
(B) RERA - Tribunals for resolving real estate legal disputes
(C) NVDA - Agency for water resource management in river basins
(D) ICCC - Centralized data dashboard for decision support

42. Match List-I with List-II and select the correct answer:
List I: (Impact Assessment Type)
P. Environmental Impact Assessment (EIA)
Q. Social Impact Assessment (SIA)
R. Traffic Impact Assessment (TIA)
S. Financial Audit
List II: (Primary Focus Area)
1. Level of Service (LoS) at intersections and parking demand

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2. Mitigation of air, water, and noise pollution
3. Accountability and utilization of plan implementation funds
4. Displacement of vulnerable communities and livelihood disruption

(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-1, Q-3, R-2, S-4
(D) P-2, Q-1, R-4, S-3

43. Which of the following statements is INCORRECT regarding the role of indicators in a plan monitoring framework?
(A) Indicators must be quantifiable and measurable over time.
(B) A higher number of complex, unmeasurable indicators guarantees a more successful plan.
(C) Indicators help track the progress of development goals against baseline data.
(D) MoHUA Service Level Benchmarks act as standardized indicators for urban basic services.

44. Consider the following statements:
Statement I: A Mid-term review of a development plan provides an opportunity to reassess demographic projections and land use assumptions based on recent census or survey data.
Statement II: Mid-term reviews are strictly prohibited in statutory planning as they violate the legal sanctity of the original 20-year master plan document.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

45. Which of the following is a primary negative consequence of failing to establish an effective feedback loop in urban planning?
(A) Prolongation of obsolete zoning regulations
(B) Enhanced resilience to climate change impacts
(C) Systematic improvement of service level benchmarks
(D) Increased accuracy of demographic projections

46. Which of the following pairs is correctly matched regarding performance benchmarking?
(A) MoHUA SLB for Water Supply Coverage - Target is 50%
(B) MoHUA SLB for Solid Waste Recovery - Target is 10%
(C) MoHUA SLB for Extent of Non-Revenue Water - Target is 20%
(D) MoHUA SLB for Storm Water Drainage Coverage - Target is 30%

47. What is the most appropriate primary function of an "Urban Observatory"?
(A) Act as a tourist destination with telescopes for stargazing
(B) Serve as the authority for clearing building permission layouts
(C) Enforce penal codes on unauthorized local slum dwellers
(D) Collect and analyze urban data for evidence-based policy

48. A large public housing project in Gwalior was completed five years ago. Planners note that the community open spaces are abandoned and vandalism is high, despite adequate area provision. To understand user dissatisfaction and design failures, which evaluation tool must the planning agency deploy?
(A) Multi-Criteria Analysis
(B) Carrying Capacity Analysis
(C) Post-Occupancy Evaluation
(D) Pre-feasibility Study

49. What is defined as the analytical technique used to observe and quantify the alteration of spatial patterns of land use over a specific time period, typically using sequential remote sensing imagery?
(A) Floor area projection
(B) Terms of reference scoping
(C) Multi-Criteria Analysis (MCA)
(D) Land use change detection

50. Consider the following statements regarding Spatial Decision Support Systems (SDSS):
1. They integrate GIS with analytical modeling capabilities.
2. They are used exclusively for financial accounting in municipal offices.
3. They assist planners in simulating "what-if"

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scenarios for urban growth.
4. They rely heavily on spatial data layers like topography, land use, and transport networks.

Which of the statements given above are correct?
(A) 1 and 4 only
(B) 1, 3 and 4 only
(C) 2, 3 and 4 only
(D) 1, 2 and 3 only

51. When utilizing Cost-Benefit Analysis (CBA) for a proposed flyover project, how is the principle of discounting applied to future benefits?
(A) Convert future benefits to present value using a discount rate
(B) Assign future benefits higher monetary value than present costs
(C) Discounting to completely ignore inflation and opportunity cost
(D) Exclude all future benefits in a traditional infrastructure CBA

52. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): Evidence-based policy making in urban planning requires the integration of robust planning information systems and urban indicators.
Reason (R): Reliance on empirical data minimizes arbitrary political decisions and ensures resources are allocated to areas with demonstrated infrastructural deficits.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

53. In Madhya Pradesh, the linking of spatial planning data with municipal finance property records is heavily emphasized. What is the primary municipal benefit of mapping every property using GIS?
(A) Widening of the property tax net and augmentation of own-source municipal revenue
(B) Immediate conversion of all properties to freehold status
(C) Reduction of property tax to zero for all commercial buildings
(D) Eradication of the need for an urban master plan

54. Match List-I with List-II and select the correct answer:
List I: (Data/Analytical Tool)
P. Composite Indices
Q. Planning Information System (PIS)
R. Cost-Benefit Analysis
S. Multi-Criteria Analysis
List II: (Planning Application)
1. Centralized digital repository of land use, utilities, and demographics
2. Ranking livability by aggregating diverse data like health, education, and environment
3. Site selection for a landfill by weighing soil, distance, and wind direction
4. Justifying the economic viability of a new metro rail system
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-3, R-4, S-1

55. Which of the following statements is INCORRECT regarding the role of data in master plan revision?
(A) Time-series data is crucial for detecting shifts in land use patterns.
(B) Master plan revisions strictly rely on the data collected during the first master plan preparation, ignoring new data.
(C) Demographic data from the latest census forms the baseline for revised projections.
(D) Spatial data analytics helps in identifying unauthorized sprawling developments that occurred during the plan period.

56. Consider the following statements:
Statement I: Composite indices, such as the Ease of Living Index, reduce complex multi-dimensional urban realities into a single measurable score.
Statement II: The construction of composite indices avoids the assignment of weights to different sub-indicators, treating all data uniformly.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.

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(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

57. Arrange the fundamental steps of conducting a Multi-Criteria Analysis (MCA) for planning decisions in the correct chronological order:
1. Scoring or evaluating the alternatives against the criteria
2. Identifying the alternatives and defining the objective
3. Selecting the criteria and assigning weights to them
4. Aggregating the scores to rank the alternatives

Which of the following is the correct sequence?
(A) 2-3-1-4
(B) 3-2-1-4
(C) 2-1-3-4
(D) 1-2-3-4

58. Which of the following pairs is INCORRECTLY matched regarding planning evaluation?
(A) Traffic Impact Assessment - Soil bearing capacity and groundwater table
(B) Environmental Impact Assessment - Baseline data on flora and fauna
(C) Social Impact Assessment - Rehabilitation and Resettlement (R&R) plan
(D) Cost-Benefit Analysis - Net Present Value (NPV) and Internal Rate of Return (IRR)

59. What is the most appropriate mechanism for "Linking planning data to budgeting and finance" at the local government level?
(A) Issuing unbacked municipal bonds based purely on political promises
(B) Developing a Capital Improvement Program (CIP) aligned with the spatial master plan priorities
(C) Utilizing foreign direct investment for day-to-day administrative salaries
(D) Decoupling the property tax registry from the GIS spatial base map

60. A town planner is revising the master plan of Jabalpur and notices a severe mismatch between proposed commercial zones and actual commercial clusters mapped via recent GIS surveys. What evidence-based planning action should be applied?
(A) Demolish all actual commercial clusters that do not fit maps
(B) Use SDSS to re-evaluate and potentially rezone clusters
(C) Ignore the GIS data as the master plan holds legal sanctity
(D) Ban all commercial activities to prevent any map mismatch

61. What defines the "Exponential method" of population projection?
(A) Population grows continuously at a constant rate, using the base of the natural logarithm (e).
(B) Population grows by a constant number every year.
(C) Population growth is constrained by an upper limit or carrying capacity.
(D) Population is projected by breaking it down into age and sex cohorts.

62. Consider the following statements regarding Migration Analysis and its planning implications:
1. Net migration is the difference between in-migration and out-migration.
2. High rural-to-urban migration typically reduces the demand for affordable housing and slums in urban areas.
3. Age-selective migration (e.g., young adults moving for education) alters the demographic dividend of a city.
4. Migration patterns directly influence the spatial forecasting of transport and physical infrastructure.

Which of the statements given above are correct?
(A) 1, 2 and 3 only
(B) 1, 3 and 4 only
(C) 2, 3 and 4 only
(D) 1, 2 and 4 only

63. If a city's basic employment is 20,000 and non-basic employment is 40,000, and a new export-oriented factory adds 5,000 basic jobs, what will be the resultant increase in total employment assuming the economic base multiplier remains constant?
(A) 5,000
(B) 10,000
(C) 15,000
(D) 20,000

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64. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): The Cohort-Component method is generally preferred over the Geometric method for detailed master plan preparation.
Reason (R): The Cohort-Component method projects only total population numbers, making the calculation faster and simpler for planners.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. The Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh relies on demographic forecasting. If a town is projected to have stagnant natural growth but rapid out-migration of labour force to nearby metros, how should infrastructure planning adapt?
(A) Over-design water networks based on high geometric growth
(B) Focus on essential infrastructure to retain population
(C) Immediately design a mass rapid transit system for the town
(D) Stop all municipal funding and services to the local town

66. Match List-I with List-II and select the correct answer:
List I: (Forecasting Tool)
P. Arithmetic Progression
Q. Geometric Progression
R. Logistic Curve
S. Economic Base Theory
List II: (Underlying Premise)
1. Growth is limited by saturation/carrying capacity
2. Total growth is a multiple of export-oriented sector growth
3. Growth occurs at a constant incremental amount
4. Growth occurs at a constant percentage rate
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-4, R-3, S-2

67. Which of the following statements is INCORRECT regarding the forecasting of Urbanisation Rates?
(A) Natural increase is the only factor responsible for changes in the urbanisation rate.
(B) It involves projecting the ratio of urban population to the total population of a region.
(C) Reclassification of rural settlements into urban local bodies significantly impacts the forecasted rate.
(D) Economic structural shifts from agriculture to services drive urbanisation rates upward.

68. Consider the following statements:
Statement I: Income and expenditure projections for a city's population help in assessing spatial requirements for varying classes of retail spaces.
Statement II: Household expenditure patterns have no spatial correlation with trip generation or transport planning.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

69. Which of the following population forecasting scenarios is an EXCEPTION to the use of standard mathematical projection methods?
(A) A brand new greenfield capital city being built from scratch with no past demographic data.
(B) A stable historic town with steady 10-year census records.
(C) A rapidly industrializing city with consistent economic investment.
(D) A metropolitan suburb experiencing uniform annual peripheral expansion.

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70. Which of the following pairs is correctly matched regarding demographic terminology?
(A) Natural Increase - Births plus in-migration
(B) Fertility Rate - Number of deaths per thousand population
(C) Net Migration - Total out-migration minus births
(D) Sex Ratio - Number of females per thousand males

71. What is the most appropriate approach for projecting the future labour force of a city?
(A) Applying a constant global LFPR of 100% to the population
(B) Analyzing pyramids and applying local participation rates
(C) Counting commercial plots and assuming one worker per plot
(D) Assuming the labour force equals only basic sector jobs

72. A town planner is using the Cohort-Component Method. Data shows a significant spike in the 15-24 age cohort moving into the city due to the establishment of several large universities. What specific planning intervention should be prioritized based on this data?
(A) Allocate extensive land for geriatric care and retirement homes
(B) Subsidize heavy manufacturing industrial zones for the town
(C) Prioritize student housing, transit, and recreation
(D) Expand primary school infrastructure throughout the district

73. In GIS-based land use planning, which spatial analysis tool is most appropriate for identifying properties located within a specific distance of a high-tension power line to enforce safety setbacks?
(A) Buffer Analysis
(B) Network Analysis
(C) Heat Map Visualization
(D) Digital Elevation Modeling

74. Consider the following factors used in estimating land demand for commercial uses:
1. Projected increase in per capita income
2. Current retail floor space per capita
3. Planned increase in the Floor Area Ratio (FAR)
4. Historic preservation guidelines for agricultural lands

Which of the statements given above strongly influence commercial land demand calculations?
(A) 1, 2 and 3 only
(B) 1, 3 and 4 only
(C) 2, 3 and 4 only
(D) 1, 2 and 4 only

75. When implementing land suitability analysis for a new sanitary landfill site, which GIS operation is used to combine multiple restriction layers?
(A) Network Analysis
(B) Spatial Overlay/Intersection Analysis
(C) 3D Viewshed Analysis
(D) Digital Elevation Profiling

76. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): Remote sensing is an indispensable tool for existing land use surveys in rapidly expanding peri-urban areas.
Reason (R): It provides timely, synoptic, and repetitive coverage, allowing planners to capture unauthorized spatial developments that outpace manual surveying.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

77. Under the URDPFI guidelines, what is the recommended percentage range of 'Residential' land use for a large city (population 5 to 50 lakhs) in its proposed land use structure?
(A) 10% - 15%
(B) 20% - 25%
(C) 36% - 39%
(D) 55% - 60%

78. Match List-I with List-II and select the correct answer:
List I: (Land Suitability Parameter)
P. High slope gradient (>15%)
Q. High water table / Wetlands
R. Proximity to major fault lines
S. Prime agricultural soil (Class I)
List II: (Reason for Constraint)
1. Risk of liquefaction and poor foundation strength
2. Food security and preservation of rural economy
3. High cost of construction and erosion risk
4. High seismic vulnerability
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2

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(D) P-4, Q-1, R-3, S-2

79. Which of the following statements is INCORRECT regarding floor area projections and built-up density norms?
(A) An increase in permissible FAR generally increases the built-up density of an area.
(B) Floor area projections are derived from anticipated per capita space requirements.
(C) Setting density norms must align with the carrying capacity of transport and civic infrastructure.
(D) High built-up density uniformly reduces the load on municipal water supply systems.

80. Consider the following statements:
Statement I: A Land Budget strictly limits a master plan to the financial allocations approved by the state finance department.
Statement II: A Land Budget in spatial planning refers to the proportionate distribution of the total planning area into various land use categories.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

81. Arrange the following steps of detecting land use change using Remote Sensing in the correct chronological order:
1. Image pre-processing and radiometric correction
2. Acquisition of multi-temporal satellite imagery
3. Accuracy assessment of the classified images
4. Image classification and overlay to map changes

Which of the following is the correct sequence?
(A) 2-1-4-3
(B) 1-2-3-4
(C) 2-4-1-3
(D) 1-3-2-4

82. Which of the following pairs is INCORRECTLY matched regarding land use classifications?
(A) URDPFI - Formulated by the Ministry of Urban Development (MoUD/MoHUA)
(B) Yellow colour code - Generally denotes Residential land use in maps
(C) Purple colour code - Generally denotes Industrial land use in maps
(D) NBO - Strictly governs the aviation flight paths over urban areas

83. What is the most appropriate indicator of a city having breached its environmental carrying capacity?
(A) Chronic groundwater depletion and recurring urban flooding
(B) Increased availability of vacant commercial real estate space
(C) A temporary drop in the arithmetic population growth rates
(D) Expansion of the municipal boundary into surrounding areas

84. The Ujjain Development Authority is planning for the Simhastha Kumbh Mela. Temporary residential and commercial land demand will spike massively, but will recede post-event. How should this unique demand be accommodated in the spatial plan?
(A) Re-zoning the agricultural green belt for commercial use
(B) Using arithmetic projection to settle floating populations
(C) Use flexible overlay zones with temporary infrastructure
(D) Demolishing residential structures for permanent hotels

85. In plan preparation, what defines the "Situation Analysis" stage?
(A) Assessment of existing conditions to identify gaps
(B) Final drafting of the zoning regulations text document
(C) Process of acquiring land through eminent domain laws
(D) Post-construction audit of a specific smart city project

86. Consider the following outcomes of the "Vision, goals and objectives formulation" stage:
1. Establishing a broad, aspirational picture of the city's future.
2. Formulating quantifiable targets.
3. Defining strategic directions for different sectors like housing and transport.

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4. Publishing the final gazette notification of the Master Plan.

Which of the statements given above are correct?
(A) 1, 2 and 3 only
(B) 2, 3 and 4 only
(C) 1, 3 and 4 only
(D) 1, 2, 3 and 4

87. During public participation for a draft plan, if significant objections are raised by stakeholders regarding the proposed alignment of a ring road, what is the statutory competency expected of the planning authority?
(A) Dismiss all objections automatically to avoid project delays
(B) Review and verify objections spatially for modification
(C) Arrest stakeholders for obstructing government planning work
(D) Immediately shift the ring road to an adjacent regional city

88. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): Preparing alternative concept plans is a redundant exercise and wastes planning resources.
Reason (R): Planners generally know the optimal spatial pattern from the beginning based purely on intuition.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) Both A and R are false.

89. Under the Madhya Pradesh Town and Country Planning Act, the declaration of an "Intention to prepare a development plan" is fundamentally important for which of the following reasons?
(A) Automatically converts agricultural land into urban zones
(B) Dissolves the elected municipal council for the city
(C) Transfers urban governance to the central government body
(D) Freezes unapproved land use to prevent speculation

90. Match List-I with List-II and select the correct answer:
List I: (Implementation Tool)
P. Zoning
Q. Town Planning Scheme (TPS)
R. Building Bye-laws
S. Land Acquisition
List II: (Description)
1. Micro-level regulation of setbacks, heights, and structural safety
2. Spatial demarcation of permitted and prohibited land uses
3. Direct purchase of land by state for public purpose under statutory law
4. Land pooling, reconstitution, and provision of infrastructure without mass displacement
(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-1, Q-4, R-2, S-3

91. Which of the following statements is INCORRECT regarding the finalization and approval process of a development plan?
(A) The State Government is typically the final approving authority for a master plan.
(B) The approved development plan remains a confidential document accessible only to town planners.
(C) A draft plan can be modified by the government based on the committee's report on public objections.
(D) Once approved, the plan comes into operation immediately on the date of its publication in the official gazette.

92. Consider the following statements:
Statement I: The "Scoping and Terms of Reference" phase establishes the spatial extent (planning area boundary) and horizon year for the master plan.
Statement II: The horizon year for a typical perspective master plan in India is generally set to 5 years.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

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93. Which of the following is an EXCEPTION to the methods used for data collection in the preparation of a base map?
(A) Economic Base Multiplier calculation
(B) Satellite Photogrammetry
(C) Drone/UAV Surveys
(D) Total Station ground surveying

94. Which of the following pairs is correctly matched regarding plan preparation stages?
(A) Concept Plan - Highly detailed, legally binding cadastral document
(B) Vision Formulation - Identifying the exact location of street lights
(C) Situation Analysis - Profiling the existing socio-economic and spatial conditions
(D) Notification - Initial collection of primary household data

95. What is the most appropriate rationale for integrating Town Planning Schemes (TPS) as an implementation mechanism within a Master Plan?
(A) Allows the government to confiscate land without compensation
(B) Completely replaces the need for city-wide zoning regulations
(C) Only applicable for developing heavy industrial park corridors
(D) Enables infrastructure development by pooling private land

96. For a rapidly expanding city, the planning authority drafts three alternative concept plans: a concentric ring model, a linear transit-oriented corridor model, and a multi-nuclei model. What competency is required to finalize the best alternative?
(A) Choosing the model that maximizes car dependency and sprawl
(B) Adopting all three models simultaneously without integration
(C) Running MCA to compare environmental and traffic efficiency
(D) Selecting models that require zero capital investment funds

97. What does the acronym SLB stand for in the context of performance benchmarking by the Ministry of Housing and Urban Affairs (MoHUA)?
(A) Standard Living Barometers
(B) Service Level Benchmarks
(C) Spatial Land Boundaries
(D) State Local Budgets

98. Consider the following steps involved in a standard Environmental Impact Assessment (EIA) for a major urban infrastructure project:
1. Screening to determine if an EIA is required.
2. Scoping to identify key environmental issues.
3. Preparation of the Environmental Management Plan (EMP).
4. Public Consultation and Hearing.

Which of the statements given above are correct?
(A) 1, 2 and 3 only
(B) 2, 3 and 4 only
(C) 1, 3 and 4 only
(D) 1, 2, 3 and 4

99. When assessing the impact of a proposed 500-bed hospital on an urban road network, which analysis must a planner primarily employ?
(A) Traffic Impact Assessment (TIA)
(B) Social Impact Assessment (SIA)
(C) Cohort-Component Method
(D) Economic Base Theory

100. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): Mid-term reviews of Development Plans are essential for adaptive planning.
Reason (R): Mid-term reviews allow planners to correct deviations, update demographic data, and respond to unforeseen socio-economic changes that occurred since the plan's inception.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

101. In evaluating the performance of urban services in Madhya Pradesh cities like Bhopal and Indore, the Swachh Survekshan rankings rely on specific data indicators. Which domain do these rankings primarily benchmark?
(A) Solid Waste Management
(B) Urban Transport

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(C) E-Governance
(D) Heritage Conservation

102. Match List-I with List-II and select the correct answer:
List I: (Urban Performance Indicator)
P. Coverage of water supply connections
Q. Extent of Non-Revenue Water (NRW)
R. Coverage of toilets
S. Collection efficiency of Municipal Solid Waste
List II: (MoHUA SLB Target)
1. 20%
2. 100%
3. 100%
4. 100%
(A) P-2, Q-1, R-3, S-4
(B) P-1, Q-2, R-4, S-3
(C) P-3, Q-4, R-1, S-2
(D) P-4, Q-3, R-2, S-1

103. Which of the following statements is INCORRECT regarding the role of audit and accountability in plan implementation?
(A) Financial audits ensure that capital allocated for infrastructure is utilized transparently.
(B) Accountability mechanisms actively discourage public participation in local governance.
(C) Physical audits cross-verify on-ground project completion against proposed master plan targets.
(D) Social audits involve the community in assessing the impact and utility of projects.

104. Consider the following statements:
Statement I: Data dashboards visualized by Urban Observatories aid rapid decision-making by municipal commissioners.
Statement II: Data dashboards are strictly manual ledgers updated once a decade during the national census.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

105. Arrange the typical stages of a Plan Monitoring Framework in the correct chronological order:
1. Definition of baseline indicators and targets
2. Periodic data collection and tracking
3. Identification of deviations and bottlenecks
4. Implementation of corrective feedback actions
Which of the following is the correct sequence?
(A) 1-2-3-4
(B) 2-1-4-3
(C) 1-3-2-4
(D) 3-1-2-4

106. Which of the following pairs is INCORRECTLY matched regarding planning evaluation?
(A) Environmental Impact Assessment (EIA) - Used to project municipal tax revenue
(B) Social Impact Assessment (SIA) - Used to quantify the displacement of local populations
(C) Post-Occupancy Evaluation (POE) - Used to assess user satisfaction of a completed building or park
(D) Service Level Benchmarks (SLB) - Used to measure the efficiency of basic civic utilities

107. What is the most appropriate outcome of establishing "Feedback loops" in adaptive planning?
(A) The master plan becomes a rigid, unchangeable document
(B) Allows iterative adjustments to policies and regulations
(C) Stakeholder complaints are looped in the legal system
(D) Planning data is intentionally hidden from public view

108. A planner is tasked with integrating a Slum Rehabilitation project into a city's framework. Under Social Impact Assessment (SIA), which factor must be evaluated with the highest priority to ensure project success?
(A) The aesthetic colour of the proposed high-rise facades
(B) Disruption to livelihoods and community social cohesion
(C) The current trends in the global stock market indices
(D) The architectural style of nearby luxury apartments

109. What defines a "Spatial Decision Support System (SDSS)" in the context of urban planning?

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(A) System assisting in decision-making for spatial problems
(B) A purely text-based legal document outlining zoning penalties
(C) A hardware tool used for measuring road width on site
(D) A financial ledger for recording property taxes for the city

110. Consider the following methods used in linking planning data to budgeting and finance:
1. Formulating a Capital Improvement Program (CIP) prioritizing master plan projects.
2. Integrating GIS parcel data with municipal tax registries to optimize property tax collection.
3. Using spatial land demand forecasts to estimate future infrastructure financing needs.
4. Banning the use of quantitative data in favor of ad-hoc political budgeting.

Which of the statements given above are correct?
(A) 1, 2 and 3 only
(B) 2, 3 and 4 only
(C) 1, 3 and 4 only
(D) 1, 2, 3 and 4

111. When a town planner relies on "Evidence-based policy making", which of the following approaches is predominantly applied?
(A) Drafting zoning policies based on anecdotal complaints
(B) Copying the master plan of a foreign city without analysis
(C) Relying solely on historical intuition without statistics
(D) Utilizing data analytics and trends for urban policies

112. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):
Assertion (A): Multi-criteria analysis (MCA) is highly effective for site selection of controversial facilities like solid waste landfills.
Reason (R): MCA allows for the incorporation and weighting of diverse criteria, such as environmental safety, transport costs, and public opposition, into a single analytical framework.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

113. Under digital initiatives in Madhya Pradesh, the linking of property ID codes with the GIS base map of a city primarily facilitates which governance objective?
(A) Creating a three-dimensional gaming model of the city
(B) Enhancing revenue and spatially tracking tax defaulters
(C) Distributing free agricultural land to urban residents
(D) Bypassing the town planning scheme approval processes

114. Match List-I with List-II and select the correct answer:
List I: (Data Concept)
P. Composite Indices
Q. Granular Data
R. Time-series Data
S. Open Data Dashboards
List II: (Planning Utility)
1. Tracking temporal changes in urban sprawl over decades
2. Promoting transparency and public participation via accessible metrics
3. Combining diverse variables to rank city livability
4. Allowing hyper-local, neighborhood-level spatial analysis
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-1, Q-2, R-3, S-4
(D) P-3, Q-1, R-4, S-2

115. Which of the following statements is INCORRECT regarding Cost-Benefit Analysis (CBA) in infrastructure planning?
(A) CBA mandates that projects with a Benefit-Cost Ratio (BCR) of less than 1.0 are inherently the most economically viable.
(B) It quantifies both the direct and indirect costs and benefits of a project.
(C) Environmental degradation caused by a project is monetized and factored in as a cost.

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(D) It uses a discount rate to calculate the Net Present Value (NPV) of future cash flows.

116. Consider the following statements:
Statement I: A Planning Information System (PIS) centralizes spatial, demographic, and economic data to facilitate the master plan revision process.
Statement II: Relying on a PIS eliminates the need for any physical ground truthing during plan preparation.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

117. Which of the following is a key advantage of using "Composite Indices" in urban planning?
(A) Summarize multi-dimensional phenomena for benchmarking
(B) Provide raw data files that are difficult for public reading
(C) Eliminate the need for detailed multi-criteria analysis
(D) Prevent cities from competing with one another for grants

118. Which of the following pairs is correctly matched regarding data-driven planning?
(A) Geographic Information System (GIS) - Used solely for drafting legal zoning text
(B) Capital Improvement Program (CIP) - Tool for mapping soil types
(C) Evidence-based Policy - Reliance on unverified political rumors
(D) Multi-Criteria Analysis (MCA) - Used to assign weights to competing spatial choices

119. What is the most appropriate reason for linking planning data directly to municipal budgeting?
(A) To artificially inflate the budget to secure larger grants
(B) Align capital expenditure with anticipated spatial growth
(C) To freeze all real estate development until budgets balance
(D) To divert all municipal funds into the stock market indices

120. A town planner is revising a 20-year-old master plan. The old plan mapped a specific zone as "Recreational", but recent satellite data and spatial analytics show dense, unauthorized "Residential" slums on the site. What is the correct data-driven decision-making approach?
(A) Ignore the satellite data and redraw the new map as the old
(B) Erase the zone from the master plan revision entirely
(C) Use SDSS to evaluate rehabilitation vs eviction impacts
(D) Falsify the dashboard to show the area as a functional park

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ANSWERS

1. (B) Logistic Curve Method
The logistic curve method, also known as the S-curve, models population growth where the rate is proportional to both the current population and the remaining capacity. This technique assumes an upper limit or saturation point, reflecting environmental or physical constraints. As the population approaches this maximum carrying capacity, the growth rate naturally slows down until stabilization occurs.

2. (B) 2 and 3 only
The cohort-component method is a sophisticated demographic tool that analyzes components of change, specifically births, deaths, and migration, for distinct age and sex groups. It utilizes age-specific fertility and mortality rates to project future populations with high accuracy. Unlike aggregate models, it provides detailed insights into the changing demographic structure, making it ideal for long-term urban planning.

3. (A) Geometric Progression Method
The geometric progression method is mathematically suited for rapidly growing urban areas where population increases at a constant percentage rate per unit of time. This compound growth model assumes that the growth in each period depends on the population at the start of that period. It effectively represents scenarios where steady industrial investments drive consistent proportional demographic expansion.

4. (D) A is false but R is true.
Economic base theory distinguishes between basic sectors that export goods and non-basic sectors serving local needs. While basic employment drives long-term growth by bringing external revenue into the region, non-basic employment expands as a secondary response to support the local population. Consequently, an increase in basic, not non-basic, employment is the primary engine of regional economic development.

5. (A) Expansion of basic sector industries in Pithampur pulling semi-skilled labour
Economic base analysis identifies basic industries as those exporting goods and services outside the local economy, thereby attracting external capital and labor. The expansion of industrial hubs like Pithampur creates a pull factor, drawing semi-skilled workers into nearby Indore. This movement is driven by the primary economic engine rather than secondary services that merely circulate existing local wealth.

6. (A) P-2, Q-4, R-1, S-3
Urban forecasting links specific variables to their key determinants. Dwelling unit projections are calculated using average household size trends and obsolescence rates. Income and expenditure forecasts depend on regional GDP and inflation. Labour force participation relates to working-age demographics and gender ratios. Finally, urbanization rates are determined by rural-urban migration patterns and the reclassification of settlements during growth.

7. (B) A high dependency ratio generally corresponds to a higher labour force participation rate.
Labour force participation measures the percentage of the working-age population actively employed or seeking work. A high dependency ratio, representing more young and elderly individuals relative to workers, typically indicates a lower overall participation rate. This metric is essential for forecasting land demand and is heavily influenced by socio-cultural shifts, including changes in female education and retirement patterns.

8. (C) Statement I is true but Statement II is false.
Declining average household size means more housing units are needed even if the total population remains stable, increasing residential land demand. However, smaller households often result in smaller individual units but higher aggregate land consumption due to increased infrastructure and common area requirements. Consequently, per capita floor space often

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increases while total aggregated residential land demand also rises significantly.

9. (A) 2-1-3-4
Demographic forecasting using the cohort-component method follows a logical sequence. Initially, a base-year population is established and distributed by age and sex cohorts. Next, assumed future age-specific survival and fertility rates are applied to these groups. Projected net migration is then added for each specific cohort. Finally, all forecasted cohorts are summed to calculate the total projected population.

10. (A) Base Multiplier - Ratio of total employment to basic employment
In economic base analysis, the base multiplier represents the relationship between total employment and basic employment. It calculates how much total employment will grow for every new job created in the export-oriented basic sector. Basic sectors bring external revenue into the city, while non-basic sectors recycle money locally. The dependency ratio relates non-working populations to the working-age population group.

11. (B) To assess the affordability of housing and willingness to pay for civic amenities
Income and expenditure projections are vital for assessing the financial capacity of the population within a development plan. These forecasts help planners determine the affordability of different housing types and the community's willingness to pay for essential civic amenities. Such economic insights ensure that proposed residential and infrastructure developments are viable and accessible to various socio-economic segments of the city.

12. (B) Logistic Curve Method
The logistic curve method is the most appropriate for towns reaching their physical or geographical limits. It accounts for a saturation point where growth slows as the population nears the carrying capacity of the area. Since heritage towns with restricted expansion cannot grow indefinitely, this mathematical model accurately reflects the deceleration of growth observed as buildable land becomes increasingly scarce.

13. (A) URDPFI Guidelines for Indian Development Plans
The Urban and Regional Development Plans Formulation and Implementation guidelines provide a standardized framework for urban planning in India. This document establishes the hierarchical categorization of land use, including residential, commercial, manufacturing, and public uses. These guidelines ensure consistency across different states and provide benchmarks for land allocation based on the size and function of the urban settlement.

14. (A) 1 and 3 only
Residential land demand estimation is directly linked to the projected population and planned density targets. High-density planning reduces the total land area required for a given population. Planners must also account for a vacancy rate to ensure a fluid housing market. However, calculations should include neighborhood-level utilities and consider migration factors to provide a realistic assessment of future needs.

15. (D) Increased vertical density requiring higher infrastructure capacity
Increasing the Floor Area Ratio while maintaining constant ground coverage leads to taller buildings and higher vertical density. This change significantly increases the number of occupants per unit of land area, placing a greater demand on local infrastructure. Consequently, planners must upgrade water supply, sewage systems, and transport networks to support the intensified residential or commercial activity within that specific zone.

16. (D) Both A and R are false.
Remote sensing is an extremely effective tool for monitoring urban land use changes over time. High-resolution satellite imagery accurately differentiates between built-up areas, vegetation, and water bodies using various spectral indices. By comparing multi-temporal data, planners can precisely track decadal expansion and land cover shifts, making it a cornerstone of modern metropolitan analysis and planning throughout the world.

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17. (B) Preparation of an Existing Land Use (ELU) map and register
The Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam mandates the creation of an existing land use map and register immediately after a planning area is constituted. This document serves as the legal baseline, recording how every parcel of land is currently utilized. It is a critical prerequisite for drafting the development plan, ensuring that future proposals are based on accurate data.

18. (A) P-2, Q-3, R-4, S-1
URDPFI guidelines categorize land uses into specific functional groups for systematic planning. Public and semi-public uses include educational and medical institutions. Recreational land use encompasses regional parks and botanical gardens. Transport and communication include bus terminals and parking lots. Commercial land use focuses on economic activities like wholesale markets and godowns, ensuring organized growth across the urban landscape.

19. (A) It dictates the absolute limits of state financial expenditure for acquiring private land.
A land budget is a quantitative planning tool that allocates the total available area among various proposed uses to ensure a balanced development. It follows standard guidelines to distribute space for residential, commercial, and open areas. While it defines spatial limits for different categories, it does not dictate the financial expenditure or budgetary limits of the state for land acquisition.

20. (C) Statement I is true but Statement II is false.
Land suitability analysis utilizes spatial overlay techniques within GIS to determine the best locations for development by evaluating multiple criteria. Contrary to being excluded, parameters like slope, soil bearing capacity, and geological fault lines are critical factors in this analysis. These variables help identify constraints and opportunities, ensuring that future land use is safe, environmentally sustainable, and technically feasible.

21. (A) Assessing development intensity sustainable without degradation
Carrying capacity analysis in urban planning evaluates the maximum level of development or population an area can sustain without environmental degradation or infrastructure failure. It considers natural resources, ecological health, and the capacity of civic services. This analysis ensures that the proposed intensity of land use remains within the limits of the local environment's ability to support and regenerate itself.

22. (D) NBO Classification - Guidelines focused primarily on smart city digital infrastructure
The National Building Organization provides standards and classifications primarily focused on housing, building materials, and construction statistics rather than smart city digital infrastructure. In contrast, cadastral maps define property boundaries and ownership, while topographical maps show physical features. Ground truthing is the essential process of field verification to ensure the accuracy of data derived from remote sensing or satellite imagery.

23. (B) Shift parameters toward high-FAR mixed-use IT park zones
When transitioning from a manufacturing to a service-based IT economy, land demand estimation must shift away from large industrial plots. The focus should move toward high-density, vertical developments like IT parks that often incorporate mixed-use zones. This approach reflects the different spatial needs of the service sector, prioritizing connectivity and high floor area ratios over traditional sprawling manufacturing plants.

24. (C) 1000 Hectares
To find the total area, first divide the population of 100,000 by the gross density of 250 persons per hectare, resulting in 400 hectares of residential land. Since residential use constitutes 40% of the total developable area, dividing the residential area by 0.40 yields a total developable area of 1,000 hectares. This calculation ensures all land use categories are accommodated.

25. (D) Terms of Reference (ToR)
The Terms of Reference is the foundational document in the planning process that outlines the specific purpose, scope, and deliverables of a project. it defines the roles of stakeholders, the timeline for completion, and the technical requirements for the plan. By establishing clear guidelines at the outset, the ToR ensures that the

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planning exercise remains focused, organized, and legally compliant.

26. (B) 1, 2 and 4 only
The situation analysis stage involves a comprehensive review of the current state of the planning area. This includes performing a SWOT analysis, evaluating the implementation of previous plans, and analyzing demographic data to identify key issues. Finalizing the exact boundaries of Town Planning Schemes occurs later in the implementation phase, rather than during the initial diagnostic and issue identification stage.

27. (B) Multi-criteria analysis weighing environmental and social impacts
Planners generate alternative concept plans to explore different spatial growth patterns for a city. The selection of the best alternative is achieved through multi-criteria analysis, which systematically weighs various environmental, social, and economic impacts. This objective approach ensures that the chosen plan aligns with development goals and adheres to professional standards, rather than being based on arbitrary or cost-cutting factors.

28. (A) Both A and R are true and R is the correct explanation of A.
The formulation of a Vision Statement is the initial step in the planning process as it sets the overall aspirational direction for the city's future. Once the vision is established, it is translated into specific goals and measurable objectives. These actionable targets provide the framework for detailed planning and implementation, ensuring that every project contributes toward achieving the overarching long-term vision.

29. (A) Directorate of Town and Country Planning (T&CP)
In Madhya Pradesh, the Directorate of Town and Country Planning is the nodal agency mandated by the MPTGNP Act 1973 to prepare development plans. This agency is responsible for the systematic planning of urban and rural areas, ensuring controlled growth and land use. While other boards handle housing or regulation, the T&CP oversees the comprehensive spatial strategy for city master plans.

30. (A) P-3, Q-2, R-1, S-4
The planning process follows a specific sequence of activities. Base map preparation involves delineating physical features and property boundaries. Public participation focuses on processing suggestions and objections from citizens. The draft development plan stage includes formulating zoning regulations to guide land use. Finally, implementation involves the execution of town planning schemes to translate the vision into physical infrastructure on the ground.

31. (D) Once the state government approves the Final Development Plan, it holds no legal binding force.
Once the state government approves and notifies the final development plan in the official gazette, it becomes a legally binding document. The process leading to this includes publishing the draft for public feedback and constituting a hearing committee to review objections. It is incorrect to claim that the finalized plan lacks legal force, as it governs all future development and land use.

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32. (C) Statement I is true but Statement II is false.
High spatial resolution is essential for base maps to accurately represent cadastral boundaries and existing infrastructure. Modern planning does not rely solely on manual surveys; instead, it integrates Geographic Information Systems and Remote Sensing data for greater precision and efficiency. These digital tools allow for the layer-based management of complex spatial information, providing a more robust foundation for the entire development plan.

33. (A) 2-1-4-3
The plan preparation process begins with scoping and defining the terms of reference. This is followed by a situation analysis to identify key issues and demographic trends. Once the diagnostic phase is complete, the draft development plan is prepared, incorporating zoning and land use proposals. The final stage involves the formal approval, notification in the gazette, and official finalization of the plan.

34. (D) TDR - Granting buildable area that can be sold or used elsewhere
Transferable Development Rights allow property owners to move the buildable area potential from one site to another, often used to preserve heritage or environmental zones. This tool provides a market-based mechanism for compensation and growth management. Conversely, zoning regulates land use, while Town Planning Schemes involve land pooling and redistribution. Eminent domain is the state's power to acquire land for public use.

35. (A) Continuous engagement through digital and physical platforms
Effective public participation requires continuous engagement with all stakeholders throughout the entire planning process. Utilizing both digital and physical platforms ensures that a diverse range of voices is heard, fostering transparency and community ownership of the plan. Restricting consultation to the final stage or limiting it to specific groups undermines the democratic nature of urban planning and leads to implementation challenges.

36. (C) During Concept plan and alternative plan preparation
The integration of major infrastructure projects like metro rail corridors should occur during the concept plan and alternative plan preparation stage. At this point, planners can evaluate different spatial configurations and apply transit-oriented development norms to maximize efficiency. Integrating these elements early ensures that the transport network and land use patterns are mutually supportive before the draft plan is finalized and notified.

37. (A) Post-Occupancy Evaluation
Post-occupancy evaluation is a systematic process used to assess the performance of a building or development after it has been occupied. It gathers data on technical performance and user satisfaction to identify design strengths and weaknesses. This feedback is invaluable for improving future projects, ensuring that built environments effectively meet the needs of the people who use them on a daily basis.

38. (B) 1, 2 and 4 only
Service Level Benchmarks developed by the Ministry of Housing and Urban Affairs focus on measuring the performance of essential urban services. These include water supply coverage, the extent of non-revenue water, and the efficiency of solid waste collection. While high-rise commercial construction is a development trend, it is not a standardized benchmark used to evaluate the service delivery of municipal authorities.

39. (B) Adjust regulations dynamically to manage linear growth
Adaptive planning uses feedback loops to respond to real-world growth patterns that deviate from the original master plan. If a city expands linearly along a highway instead of concentrically, the planning authority should dynamically adjust zoning regulations to manage this growth. This approach ensures that infrastructure and services are provided where demand is actually occurring, rather than sticking to obsolete projections.

40. (A) Both A and R are true and R is the correct explanation of A.
A Traffic Impact Assessment is mandatory for large commercial developments because they generate significant numbers of vehicle trips. These nodes can overwhelm the existing road network, leading to congestion and safety issues. By conducting a TIA, planners can identify necessary mitigation measures and ensure that the surrounding infrastructure has sufficient carrying capacity to support the new development without compromising overall mobility.

41. (D) ICCC - Centralized data dashboard for decision support
The Integrated Command and Control Center is a key component of the Smart Cities Mission in Madhya Pradesh. It serves as a centralized data dashboard that facilitates real-time monitoring of civic services and utilities. By collecting and analyzing data from various sensors and municipal records, the ICCC provides decision-makers with the support needed for efficient urban management and rapid response.

42. (A) P-2, Q-4, R-1, S-3
Different impact assessments target specific urban planning concerns. Environmental

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assessments focus on mitigating air, water, and noise pollution. Social assessments evaluate the displacement of communities and potential livelihood disruptions. Traffic assessments analyze the level of service at intersections and parking demand. Financial audits ensure accountability and the proper utilization of funds allocated for the implementation of various plan projects.

43. (B) A higher number of complex, unmeasurable indicators guarantees a more successful plan.
Indicators in a monitoring framework must be quantifiable, measurable, and relevant to tracking progress against established goals. Having an excessive number of complex or unmeasurable indicators does not guarantee a successful plan; instead, it can lead to confusion and data overload. Standardized benchmarks, like those from MoHUA, are preferred as they provide clear targets for evaluating the efficiency of urban services.

44. (C) Statement I is true but Statement II is false.
A mid-term review is a vital part of statutory planning that allows authorities to reassess demographic and land use projections using recent data. It provides the flexibility to correct deviations and ensures the plan remains relevant throughout its horizon. These reviews are not prohibited; rather, they are encouraged to maintain the plan's effectiveness in responding to changing socio-economic and spatial realities.

45. (A) Prolongation of obsolete zoning regulations
Failing to establish effective feedback loops prevents a planning authority from identifying when its regulations no longer align with actual urban trends. This often leads to the prolongation of obsolete zoning laws that can stifle growth or cause environmental harm. Without regular evaluation and adjustment, the master plan becomes unresponsive to the evolving needs of the city and its residents.

46. (C) MoHUA SLB for Extent of Non-Revenue Water - Target is 20%
The Service Level Benchmarks formulated by the Ministry of Housing and Urban Affairs set standardized targets for urban services. The benchmark for the extent of non-revenue water is set at a maximum of 20%, aiming to minimize wastage and financial loss. Other targets, such as water supply coverage and solid waste collection efficiency, are generally set much higher, often reaching 100%.

47. (D) Collect and analyze urban data for evidence-based policy
An urban observatory is a specialized institution that collects, manages, and analyzes data related to urban indicators. Its primary function is to provide evidence-based insights to support policy-making and planning decisions. By monitoring demographic, environmental, and economic trends, the observatory helps city managers understand the impact of their interventions and identify areas requiring further attention or resource allocation.

48. (C) Post-Occupancy Evaluation
Post-occupancy evaluation is the most appropriate tool for understanding why a completed public housing project is suffering from vandalism and abandoned spaces. By surveying residents and analyzing the physical environment, planners can identify design failures and social issues. This diagnostic process provides the necessary feedback to improve the management of current projects and the design of future housing developments.

49. (D) Land use change detection
Land use change detection is a spatial analytical technique that uses multi-temporal remote sensing imagery to quantify shifts in land cover patterns over a specific period. By comparing satellite images from different years, planners can accurately measure the pace and direction of urban expansion. This data is essential for monitoring the implementation of development plans and identifying areas of unauthorized growth.

50. (B) 1, 3 and 4 only
Spatial Decision Support Systems integrate GIS with analytical models to assist planners in making informed decisions. They are used to simulate "what-if" scenarios, allowing for the evaluation of different urban growth strategies. These systems rely on various spatial data layers, including topography and transport networks. They are not intended for routine financial

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accounting, but rather for complex spatial problem-solving and planning.

51. (A) Convert future benefits to present value using a discount rate
In Cost-Benefit Analysis, the principle of discounting is applied to convert future benefits and costs into their present value. This is necessary because the value of money changes over time due to factors like inflation and opportunity cost. By using a discount rate, planners can compare long-term benefits with immediate project costs, providing a more accurate assessment of an infrastructure project's economic viability.

52. (A) Both A and R are true and R is the correct explanation of A.
Evidence-based policy making relies on robust information systems and indicators to ensure that urban planning decisions are grounded in empirical data. This approach minimizes arbitrary or politically motivated choices, leading to more objective resource allocation. By focusing on demonstrated infrastructural deficits, planners can prioritize interventions that will have the most significant impact on improving city life and overall sustainable development.

53. (A) Widening of the property tax net and augmentation of own-source municipal revenue
Mapping every property using GIS allows municipal authorities to link spatial data with financial records, ensuring that all land parcels are accounted for in the tax system. This process helps in identifying unassessed properties, thereby widening the tax net and significantly augmenting own-source municipal revenue. Increased revenue enables the local government to fund essential civic services and infrastructure projects more effectively.

54. (A) P-2, Q-1, R-4, S-3
Analytical tools serve specific roles in the planning process. Composite indices aggregate diverse data to rank city livability. A Planning Information System acts as a centralized digital repository for land use and demographics. Cost-benefit analysis is used to justify the economic viability of major projects. Multi-criteria analysis assists in complex decisions, such as selecting the most suitable site for a landfill facility.

55. (B) Master plan revisions strictly rely on the data collected during the first master plan preparation, ignoring new data.
Master plan revisions must incorporate the most recent data to be effective. Relying solely on data from the initial plan would ignore significant changes and trends that have occurred over the preceding years. New demographic census results, current land use surveys, and updated spatial analytics are all essential for ensuring that the revised plan accurately reflects the city's current needs and future challenges.

56. (C) Statement I is true but Statement II is false.
Composite indices simplify complex urban realities into a single score, making it easier to compare and benchmark different cities. However, the construction of these indices typically involves assigning weights to various sub-indicators based on their relative importance. This weighting process ensures that critical factors have a greater impact on the final score, rather than treating all data points as having equal significance.

57. (A) 2-3-1-4
Multi-criteria analysis follows a logical progression of steps. First, the objective is defined and potential alternatives are identified. Next, the criteria for evaluation are selected and assigned appropriate weights. The alternatives are then scored against these criteria to assess their performance. Finally, these scores are aggregated to rank the alternatives, providing a clear basis for selecting the most suitable option for the project.

58. (A) Traffic Impact Assessment - Soil bearing capacity and groundwater table
Traffic Impact Assessment focuses on analyzing vehicle movements, road capacity, and parking demand rather than geological factors. Soil bearing capacity and groundwater levels are typically investigated during geotechnical surveys or as part of an Environmental Impact Assessment. In contrast, Social Impact Assessments address community displacement, while Cost-Benefit Analysis utilizes financial metrics like Net Present Value and Internal Rate of Return.

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59. (B) Developing a Capital Improvement Program (CIP) aligned with the spatial master plan priorities
A Capital Improvement Program is a long-term plan that coordinates spatial planning goals with financial budgeting. It prioritizes infrastructure projects identified in the master plan and schedules their funding over several years. This mechanism ensures that capital expenditure is strategically directed toward the most critical development needs, providing a clear link between the physical vision for the city and its fiscal reality.

60. (B) Use SDSS to re-evaluate and potentially rezone clusters
When GIS surveys reveal a mismatch between planned zones and actual land use, planners should use a Spatial Decision Support System to re-evaluate the situation. This evidence-based approach allows for a detailed analysis of the existing clusters and their impact on the city. Based on this analysis, the planner can make informed decisions about rezoning the area to reflect current economic realities.

61. (A) Population grows continuously at a constant rate, using the base of the natural logarithm (e).
The exponential method of population projection assumes that growth occurs continuously at a constant rate. This model utilizes the base of the natural logarithm to calculate future population sizes. Unlike linear models that add a fixed number of people each year, the exponential model reflects a compounding effect, where the increase in population is proportional to the current population at any given moment.

62. (B) 1, 3 and 4 only
Migration analysis is a key component of urban forecasting. Net migration measures the balance between people entering and leaving a city. Age-selective migration impacts the demographic structure, while overall patterns determine the demand for infrastructure. However, high rural-to-urban migration typically increases, rather than reduces, the demand for affordable housing and can lead to the expansion of informal settlements or slums.

63. (C) 15,000
The base multiplier is calculated by dividing total employment by basic employment. In this case, total employment is 60,000 (20,000 basic plus 40,000 non-basic), and basic employment is 20,000, giving a multiplier of 3. When 5,000 new basic jobs are added, the total employment increase is found by multiplying this number by the multiplier (5,000 times 3), resulting in 15,000 new jobs.

64. (C) A is true but R is false.
The cohort-component method is preferred for master planning because it provides a detailed breakdown of population by age and sex, which is essential for specialized infrastructure planning. It is far more complex and data-intensive than the geometric method, contrary to the idea that it is simpler or faster. This complexity allows for more accurate forecasts by accounting for births, deaths, and migration separately.

65. (B) Focus on essential infrastructure to retain population
If a town faces stagnant natural growth and high out-migration, infrastructure planning should focus on improving essential services to enhance livability and retain the current population. Over-designing for high growth or planning for mass transit would be inappropriate given the demographic trends. The goal should be to stabilize the local economy and social structure by providing high-quality basic infrastructure and civic amenities.

66. (A) P-3, Q-4, R-1, S-2
Different forecasting tools are based on distinct underlying premises. Arithmetic progression assumes growth by a constant incremental amount. Geometric progression models growth at a constant percentage rate. The logistic curve reflects growth limited by a saturation or carrying capacity. Economic base theory posits that total regional growth is a multiple of the expansion observed in the export-oriented or basic sector.

67. (A) Natural increase is the only factor responsible for changes in the urbanisation rate.
Urbanization rates are influenced by multiple factors, not just natural increase. Significant drivers include rural-to-urban migration, the expansion of municipal boundaries, and the

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reclassification of rural settlements as urban areas. Economic shifts toward the service and industrial sectors also play a major role. Therefore, claiming that natural increase is the sole factor responsible for changes in the urbanization rate is factually incorrect.

68. (C) Statement I is true but Statement II is false.
Income and expenditure projections provide essential data for planning the size and location of retail spaces based on consumer behavior. Household expenditure patterns are strongly correlated with trip generation, as spending often involves travel to commercial or recreational areas. Consequently, these economic patterns are a critical input for both retail land use planning and the design of efficient transport networks.

69. (A) A brand new greenfield capital city being built from scratch with no past demographic data.
Standard mathematical projection methods rely on historical census data to forecast future population trends. A brand-new greenfield capital city lacks this historical record, making traditional methods like arithmetic or geometric progression inapplicable. In such cases, planners must use alternative approaches based on planned target populations, economic targets, or benchmarks from similar cities to estimate future growth and land requirements.

70. (D) Sex Ratio - Number of females per thousand males
The sex ratio is a standard demographic term defined as the number of females per thousand males in a given population. This metric is vital for understanding demographic balance and planning for gender-specific needs. In contrast, natural increase is the difference between births and deaths, fertility rate refers to births per thousand women, and net migration is the difference between in-migration and out-migration.

71. (B) Analyzing pyramids and applying local participation rates
Projecting the future labour force requires a detailed analysis of population pyramids to identify the working-age demographic. Planners then apply local labour force participation rates to these cohorts to estimate how many people will be actively seeking employment. This method is far more accurate than assuming a constant global rate or relying solely on land use counts, as it accounts for local socio-economic trends.

72. (C) Prioritize student housing, transit, and recreation
A significant increase in the 15-24 age cohort, driven by new universities, signals a high demand for specific types of infrastructure. Planners should prioritize the development of student housing, efficient public transit, and recreational facilities to serve this young population. This targeted intervention ensures that the city's growth is supported by appropriate services, rather than focusing on needs like geriatric care or primary education.

73. (A) Buffer Analysis
Buffer analysis is a GIS tool used to create a zone of a specified distance around a point, line, or area feature. It is the most appropriate method for identifying properties near high-tension power lines to enforce safety setbacks. By generating a buffer around the power lines, planners can easily see which land parcels fall within the restricted zone and must adhere to safety regulations.

74. (A) 1, 2 and 3 only
Commercial land demand is influenced by economic factors such as per capita income and current retail space usage. Planned changes in the Floor Area Ratio also directly impact the amount of land needed, as higher FAR allows for more floor space on less land. While agricultural preservation is important, it is a constraint on land supply rather than a driver of commercial demand itself.

75. (B) Spatial Overlay/Intersection Analysis
Spatial overlay or intersection analysis is a fundamental GIS operation used to combine multiple layers of geographic information. When conducting land suitability analysis for a landfill, this technique allows planners to integrate various restriction layers, such as distance from water bodies and soil types. The resulting map identifies areas that meet all the necessary environmental and safety criteria by intersecting these individual data layers.

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76. (A) Both A and R are true and R is the correct explanation of A.
Remote sensing is indispensable for mapping peri-urban areas because it provides a rapid and repetitive way to capture spatial changes. Manual surveys often struggle to keep pace with the high speed of development on the urban fringe. Satellite imagery allows planners to detect unauthorized construction and land use shifts in real-time, ensuring that development plans are based on the most current and comprehensive spatial data available.

77. (C) 36% - 39%
The URDPFI guidelines suggest specific land use distributions for cities of different sizes to ensure balanced development. For large cities with a population between 5 and 50 lakhs, the recommended range for residential land use is typically between 36% and 39%. This allocation provides sufficient space for housing while leaving enough land for commercial, industrial, recreational, and public utility uses within the urban framework.

78. (A) P-3, Q-1, R-4, S-2
Land suitability parameters are linked to specific constraints. Steep slopes increase construction costs and erosion risks. High water tables or wetlands pose risks to foundation strength and are prone to liquefaction. Proximity to fault lines indicates high seismic vulnerability. Finally, prime agricultural soil is preserved to ensure food security and protect the rural economy, acting as a significant constraint on urban land expansion.

79. (D) High built-up density uniformly reduces the load on municipal water supply systems.
High built-up density increases the concentration of people in a specific area, which significantly raises the aggregated demand for municipal services like water supply. Contrary to reducing the load, intensified development requires upgraded infrastructure to handle higher volumes of consumption and waste. Planners must ensure that density norms are carefully matched with the carrying capacity of the city's utility networks to prevent service failures.

80. (D) Statement I is false but Statement II is true.
A land budget in spatial planning does not refer to financial allocations from the state. Instead, it describes the proportionate distribution of the total planning area into different land use categories, such as residential, commercial, and open space. It ensures that the sum of all allocated uses matches the total available area, providing a balanced framework for the long-term physical development of the city.

81. (A) 2-1-4-3
Detecting land use change using remote sensing involves several sequential steps. First, multi-temporal satellite imagery must be acquired. These images then undergo pre-processing and radiometric correction to ensure consistency. Following this, image classification and overlay techniques are used to map the changes between different time periods. Finally, an accuracy assessment is performed to verify the reliability of the resulting land use maps.

82. (D) NBO - Strictly governs the aviation flight paths over urban areas
The National Building Organization focuses on housing and construction statistics, not aviation flight paths. Aviation regulations and flight path restrictions over urban areas are governed by the Directorate General of Civil Aviation or the Airports Authority of India. Standard land use maps use specific colors, such as yellow for residential and purple for industrial, following frameworks like those established by the URDPFI guidelines.

83. (A) Chronic groundwater depletion and recurring urban flooding
Breaching environmental carrying capacity occurs when urban development exceeds the ability of the local ecosystem to provide resources and absorb waste. Chronic groundwater depletion and recurring urban flooding are clear indicators of this imbalance, reflecting over-extraction and the loss of natural drainage areas. These signs suggest that current land use and population levels are unsustainable and require urgent corrective planning and environmental management.

84. (C) Use flexible overlay zones with temporary infrastructure
For unique events like the Simhastha Kumbh Mela, where demand for space is temporary but massive, planners should use flexible overlay

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zones. This approach allows for temporary changes in land use and the provision of temporary infrastructure without permanently altering the spatial plan. Once the event concludes, the land can return to its original use, preserving the long-term integrity of the master plan.

85. (A) Assessment of existing conditions to identify gaps
The situation analysis stage in plan preparation involves a comprehensive assessment of the existing socio-economic and physical conditions of the planning area. This process helps planners identify current gaps, challenges, and opportunities, forming the diagnostic basis for future proposals. By understanding the present situation, authorities can develop more effective and targeted strategies for the development plan to address the city's real needs.

86. (A) 1, 2 and 3 only
The formulation of vision, goals, and objectives establishes the long-term aspirational direction and specific targets for a city. It includes defining strategic directions across sectors like transport and housing. However, the final gazette notification occurs at the very end of the planning process, long after the vision and objectives have been formulated and translated into a detailed development plan for the area.

87. (B) Review and verify objections spatially for modification
When stakeholders raise significant objections during public participation, the planning authority is legally and professionally obligated to review and verify them. This may involve spatial analysis to see if proposed alignments can be modified to address valid concerns. Dismissing objections arbitrarily or taking punitive actions undermines the democratic planning process and can lead to legal challenges and delays in plan implementation.

88. (D) Both A and R are false.
Preparing alternative concept plans is a vital part of the planning process, allowing for the comparison of different development strategies. It is not redundant, as it helps identify the most sustainable and efficient growth pattern. Planners do not rely on intuition alone; they use analytical tools and stakeholder feedback to evaluate alternatives, ensuring that the final plan is robust, objective, and well-considered.

89. (D) Freezes unapproved land use to prevent speculation
Under the MPTGNP Act, declaring the intention to prepare a development plan is a critical legal step that freezes unapproved land use changes. This prevents land speculation and unauthorized developments that could conflict with the forthcoming master plan. By maintaining the status quo during the planning period, authorities ensure that the new plan can be developed and implemented based on a stable spatial framework.

90. (A) P-2, Q-4, R-1, S-3
Different implementation tools address various aspects of urban development. Zoning demarcates permitted and prohibited land uses. Town Planning Schemes involve land pooling and infrastructure provision without mass displacement. Building bye-laws regulate micro-level details like height and safety. Land acquisition is the direct purchase of property by the state for public purposes, ensuring that major infrastructure projects can proceed as planned.

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91. (B) The approved development plan remains a confidential document accessible only to town planners.
Once a development plan is approved and notified, it is a public document and must be accessible to all citizens. Transparency is essential for ensuring that developers and residents understand the regulations and future proposals for the city. It is incorrect to claim the plan remains confidential, as its legal authority and successful implementation depend on public knowledge and adherence to the official gazette notification.

92. (C) Statement I is true but Statement II is false.
The scoping phase defines the spatial boundary and the horizon year for a plan, providing the necessary framework for analysis. However, a typical perspective master plan in India is generally prepared for a 20-year horizon, not 5 years. A 5-year period is more common for short-term action plans or investment programs, while master plans aim for long-term strategic direction and infrastructure development.

93. (A) Economic Base Multiplier calculation
Base maps are created using spatial data collection methods such as satellite photogrammetry, drone surveys, and ground surveying with total stations. These techniques provide accurate geographical and physical information about the land. Calculating the economic base multiplier is a demographic and economic analytical technique used for forecasting, rather than a method for gathering the physical spatial data required to draft a base map.

94. (C) Situation Analysis - Profiling the existing socio-economic and spatial conditions
Situation analysis is a key stage in plan preparation that involves profiling the existing socio-economic and spatial conditions of an area. It provides the data needed to identify issues and development opportunities. In contrast, concept plans are preliminary and not yet detailed cadastral documents, and vision formulation focuses on broad aspirations rather than specific infrastructure locations like street lights or individual neighborhood details.

95. (D) Enables infrastructure development by pooling private land
Integrating Town Planning Schemes into a master plan is a strategic choice that enables the development of infrastructure through land pooling. By reconstituting private land parcels, the government can provide roads, parks, and utilities while returning improved plots to the original owners. This mechanism avoids the high costs and social friction of mass land acquisition, making it an effective tool for orderly urban expansion.

96. (C) Running MCA to compare environmental and traffic efficiency
Finalizing the best alternative from several concept plans requires a systematic and objective evaluation process. Planners should use Multi-Criteria Analysis to compare the models based on factors like environmental impact, traffic efficiency, and social equity. This ensures that the chosen spatial pattern is the most sustainable and effective for the city's growth, rather than relying on intuition or choosing models that maximize sprawl.

97. (B) Service Level Benchmarks
SLB stands for Service Level Benchmarks, which are standardized metrics developed by the Ministry of Housing and Urban Affairs to evaluate the performance of urban basic services. These benchmarks cover critical areas like water supply, sanitation, and solid waste management. By providing clear targets and indicators, the SLB framework helps municipal authorities track their progress, identify service gaps, and improve the quality of civic utilities.

98. (D) 1, 2, 3 and 4
A standard Environmental Impact Assessment involves several critical steps to ensure sustainable development. It begins with screening and scoping to identify key issues. Following a detailed study, an Environmental Management Plan is prepared to outline mitigation measures. Public consultation and hearings are then conducted to gather feedback from the community, ensuring that all environmental and social concerns are addressed before project approval.

99. (A) Traffic Impact Assessment (TIA)
A 500-bed hospital is a major trip generator that can significantly impact the local transport network. A Traffic Impact Assessment is necessary to evaluate how the additional traffic will affect road capacity and intersection performance. This analysis helps planners design appropriate access points and identify necessary infrastructure improvements to ensure that the hospital can function efficiently without causing excessive congestion in the surrounding urban area.

100. (A) Both A and R are true and R is the correct explanation of A.
Mid-term reviews are essential for adaptive planning because they provide the opportunity to update the master plan based on real-world changes. Over a 20-year period, demographic trends and socio-economic conditions can shift in unforeseen ways. A mid-term review allows planners to correct deviations, incorporate new data, and ensure that the plan remains an effective guide for the city's sustainable development and growth management.

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101. (A) Solid Waste Management
The Swachh Survekshan rankings are part of a national mission to improve cleanliness and waste management in Indian cities. These rankings primarily benchmark the performance of urban local bodies in the domain of solid waste management, including collection, processing, and disposal. Success in these rankings encourages cities like Bhopal and Indore to adopt more efficient practices and infrastructure to maintain a clean urban environment.

102. (A) P-2, Q-1, R-3, S-4
Service Level Benchmarks set specific performance targets for civic services. The targets for coverage of water supply, toilets, and solid waste collection efficiency are all set at 100% to ensure universal access and environmental health. However, the benchmark for non-revenue water is capped at 20%, reflecting an acceptable level of technical loss and providing a realistic goal for municipal authorities to work toward.

103. (B) Accountability mechanisms actively discourage public participation in local governance.
Audit and accountability mechanisms are designed to enhance transparency and ensure the proper use of public resources. Far from discouraging participation, these tools often involve the community through social audits and public feedback. They help build trust between the government and citizens, ensuring that plan implementation is effective and that funds are utilized for the intended projects, thereby improving overall urban governance.

104. (C) Statement I is true but Statement II is false.
Data dashboards used by urban observatories provide real-time, visualized information that supports rapid and informed decision-making. These digital tools allow municipal leaders to monitor service delivery and identify issues as they arise. They are not manual ledgers; instead, they integrate various data streams to provide a dynamic and comprehensive view of the city's performance, far surpassing the limitations of decadal census data.

105. (A) 1-2-3-4
A standard monitoring framework follows a logical sequence. It starts with defining baseline indicators and targets. Periodic data collection is then performed to track progress. Based on this data, planners identify deviations from the plan and any bottlenecks in implementation. Finally, corrective feedback actions are implemented to address these issues and bring the development process back in line with the established goals.

106. (A) Environmental Impact Assessment (EIA) - Used to project municipal tax revenue
An Environmental Impact Assessment is used to identify and mitigate the ecological consequences of a project, not to project municipal tax revenue. Tax revenue projections are typically part of a financial or economic feasibility study. In contrast, Social Impact Assessments focus on community displacement, Post-Occupancy Evaluations assess user satisfaction, and Service Level Benchmarks measure the efficiency of basic civic services and utilities.

107. (B) Allows iterative adjustments to policies and regulations
Feedback loops are a core component of adaptive planning, allowing for iterative adjustments to policies and regulations based on real-world performance. Instead of being a rigid document, the master plan becomes a dynamic tool that can respond to changing needs and conditions. This approach ensures that urban management remains effective and relevant, fostering resilience and allowing for the continuous improvement of the city's development strategy.

108. (B) Disruption to livelihoods and community social cohesion
In a Social Impact Assessment for a slum rehabilitation project, the highest priority must be given to evaluating the disruption to livelihoods and community social cohesion. Successful rehabilitation depends on ensuring that residents maintain access to their jobs and social support networks. Focusing on these human factors, rather than aesthetic or market trends, is essential for creating sustainable and inclusive urban housing solutions.

109. (A) System assisting in decision-making for spatial problems
A Spatial Decision Support System is a computer-based system that integrates spatial data with analytical models to help planners solve complex

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geographical problems. It provides a platform for evaluating different scenarios and making informed decisions about land use, infrastructure, and environmental management. By combining GIS capabilities with decision analysis, an SDSS enhances the precision and objectivity of the urban planning and management process.

110. (A) 1, 2 and 3 only
Linking planning data to finance involves several strategic activities. This includes creating a Capital Improvement Program to prioritize projects and integrating GIS parcel data with tax registries to improve revenue collection. Forecasts for land demand also help estimate future funding needs for infrastructure. Relying on ad-hoc political budgeting without data is counterproductive and undermines the financial sustainability and orderly development of the city.

111. (D) Utilizing data analytics and trends for urban policies
Evidence-based policy making in urban planning relies on the systematic use of data analytics and trends to formulate effective policies. Instead of following intuition or anecdotal complaints, planners analyze empirical evidence to understand the city's needs and predict the impact of various interventions. This objective approach ensures that resources are allocated efficiently and that urban policies are grounded in reality, leading to better developmental outcomes.

112. (A) Both A and R are true and R is the correct explanation of A.
Multi-criteria analysis is an ideal tool for locating controversial facilities like landfills because it can incorporate a wide range of competing factors. By weighting criteria such as environmental safety, transport costs, and public concerns, MCA provides a transparent and objective framework for decision-making. This systematic approach helps build consensus and ensures that the final site selection is the most balanced and defensible option available.

113. (B) Enhancing revenue and spatially tracking tax defaulters
Linking property ID codes with a GIS base map is a powerful governance tool that facilitates the spatial tracking of properties. This integration allows municipal authorities to identify unassessed buildings and tax defaulters, thereby significantly enhancing revenue collection. It provides a clear and organized database for property management, ensuring that tax assessments are accurate and that the local government has the funds needed for civic improvements.

114. (A) P-3, Q-4, R-1, S-2
Different data concepts provide various utilities in planning. Composite indices combine diverse variables to rank livability. Granular data allows for hyper-local analysis at the neighborhood level. Time-series data is used to track temporal changes like urban sprawl over several decades. Open data dashboards promote transparency and public participation by making performance metrics easily accessible to citizens and stakeholders in the urban planning process.

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115. (A) CBA mandates that projects with a Benefit-Cost Ratio (BCR) of less than 1.0 are inherently the most economically viable.
In Cost-Benefit Analysis, a project is considered economically viable only if its Benefit-Cost Ratio is greater than 1.0, meaning the benefits outweigh the costs. A BCR of less than 1.0 indicates that the project's costs exceed its anticipated benefits, suggesting it is not a sound investment. CBA is designed to quantify both direct and indirect factors, including environmental costs, to ensure a comprehensive evaluation.

116. (C) Statement I is true but Statement II is false.
A Planning Information System is a valuable tool for centralizing diverse datasets and facilitating master plan revisions. However, it does not eliminate the need for physical ground truthing. Field verification is essential to ensure that the digital data accurately reflects the current reality on the ground. Ground truthing corrects errors in remote sensing and ensures that planning decisions are based on the most precise information.

117. (A) Summarize multi-dimensional phenomena for benchmarking
The key advantage of composite indices is their ability to summarize complex, multi-dimensional urban realities into a single, understandable score. This makes it easier for planners, policymakers, and the public to benchmark performance and

compare different cities or neighborhoods. By reducing diverse data into a unified metric, composite indices provide a clear and effective way to communicate livability and progress toward development goals.

118. (D) Multi-Criteria Analysis (MCA) - Used to assign weights to competing spatial choices
Multi-Criteria Analysis is a specialized tool used to assign weights to various competing choices in the planning process. It helps planners make objective decisions by systematically evaluating alternatives against a set of prioritized criteria. In contrast, GIS is for spatial analysis and mapping, while a Capital Improvement Program is a budgeting tool. Evidence-based policy relies on verified data and trends rather than political rumors.

119. (B) Align capital expenditure with anticipated spatial growth
Linking planning data to municipal budgeting ensures that capital expenditure is strategically aligned with the city's anticipated spatial growth. By using data from the master plan, authorities can prioritize investments in infrastructure where they are most needed to support future development. This integration prevents wasteful spending and ensures that the financial resources of the local government are used to effectively implement the long-term vision for the city.

120. (C) Use SDSS to evaluate rehabilitation vs eviction impacts
When a mismatch between planned recreational zones and actual slum developments is identified, the most data-driven approach is to use a Spatial Decision Support System. An SDSS can evaluate the various impacts of different policy options, such as rehabilitation versus eviction. This allows the planner to make an informed decision that balances social equity with spatial planning goals, rather than simply ignoring the current reality.

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CHAPTER 04
Planning Systems and Hierarchy of Plans

1. Which of the following best defines the primary objective of the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines 2014?
(A) Manual for plan formulation, spatial standards, and resource mobilization.
(B) A rigid statutory framework superseding all individual state town planning acts.
(C) A direct funding mechanism for large-scale urban infrastructure developments.
(D) A mandate for the privatization of local area planning in Indian municipalities.

2. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Under the planning hierarchy, the Regional Plan provides the macro-level policy framework, while the Local Area Plan deals with micro-level implementation.
Reason (R): Different tiers of planning operate independently without the need for nested spatial alignment.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

3. In the context of Madhya Pradesh, which statutory act primarily governs the preparation of development plans and enforces URDPFI-aligned planning norms?
(A) Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973
(B) Madhya Pradesh Municipal Corporation Act, 1956
(C) Madhya Pradesh Town and Country Planning (Amendment) Act, 2012
(D) Madhya Pradesh Bhumi Vikas Niyam, 1984

4. Match the following planning tiers with their typical time horizons as per standard guidelines.
List I: Planning Tiers
P. Perspective Plan
Q. Regional Plan
R. Development Plan
S. Local Area Plan
List II: Time Horizons
1. 5 to 20 years
2. 20 to 30 years
3. 20 years
4. 20 years
(A) P-2, Q-3, R-4, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-4, Q-1, R-2, S-3

5. Which of the following statements regarding the density norms suggested by the URDPFI guidelines is INCORRECT?
(A) Gross density is calculated over the entire developed area of the city.
(B) Density norms are uniform across all sizes of urban settlements in India.
(C) Net residential density excludes city-level roads and major open spaces.
(D) Hill towns have different recommended density standards compared to plain areas.

6. Consider the following statements regarding the roles and responsibilities at various tiers of the planning hierarchy:
1. The Central Government formulates broad spatial policies like the National Urban Policy Framework.
2. State Governments are responsible for enacting town planning legislation.
3. District Planning Committees (DPCs) consolidate rural and urban plans at the district level.
4. Urban Local Bodies (ULBs) have no role in local area planning under the 74th CAA.
Which of the above statement(s) is/are correct?

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(A) 1, 2, and 3 only
(B) 2, 3, and 4 only
(C) 1, 3, and 4 only
(D) 1, 2, 3, and 4

7. A planner is assigned to develop a greenfield township. According to URDPFI spatial principles, how should they apply FAR and density norms to optimize infrastructure utilization?
(A) Assign maximum FAR uniformly across all plots regardless of street width.
(B) Restrict higher FAR exclusively to the periphery of the township.
(C) Decouple FAR provisions from the carrying capacity of water and sewer lines.
(D) Correlate higher FAR and density allocations along major transit corridors.

8. Arrange the following planning instruments in the correct hierarchical order from the highest (macro) level to the lowest (micro) level:
1. Master/Development Plan
2. Perspective Plan
3. Local Area Plan
4. Regional Plan

(A) 2, 4, 1, 3
(B) 4, 2, 1, 3
(C) 2, 1, 4, 3
(D) 1, 4, 2, 3

9. Which of the following is NOT classified as a core component of "Social Infrastructure" standards under the URDPFI Guidelines?
(A) Primary Health Centres
(B) Underground Sewerage Networks
(C) Higher Secondary Schools
(D) Community Parks

10. Read the following statements regarding road hierarchy standards and select the correct option.
Statement I: Arterial roads are designed primarily for high mobility and carry the largest traffic volumes.
Statement II: Local streets prioritize access to abutting properties over high-speed mobility.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

11. Identify the correct pairing of the URDPFI social infrastructure category with its indicative population serving norm.
(A) General Hospital - 2,50,000 population
(B) Neighborhood Park - 1,00,000 population
(C) Primary School - 50,000 population
(D) Community Hall - 500 population

12. What is the most appropriate rationale for state governments modifying URDPFI guidelines before adopting them into state rules?
(A) Bypass environmental regulations mandated by the Central Government authority.
(B) Convert all advisory guidelines into immediate and strictly penal state laws.
(C) Contextualize spatial norms based on regional topography and local needs.
(D) Eliminate the participation of local bodies within the multi-tier planning process.

13. In which year were the revised Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines published by the Ministry of Urban Development?
(A) 1996
(B) 2005
(C) 2014
(D) 2021

14. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): The Right of Way (RoW) for an arterial road is significantly wider than that of a collector street.
Reason (R): Collector streets are intended to serve inter-city heavy freight movement rather than local traffic distribution.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

15. Under the provisions of the Madhya Pradesh Bhumi Vikas Niyam, what is the primary consideration when designating density norms

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for new residential developments in cities like Indore and Bhopal?
(A) Maintaining a uniform density of 1000 persons per hectare for all urban zones.
(B) Linking density to the width of the approach road and infrastructure.
(C) Restricting high density residential zones exclusively to the heritage cores.
(D) Allowing unlimited density in plotting schemes without extra development charges.

16. Match the urban road classification with its primary function.
List I: Urban Road Classification
P. Arterial Road
Q. Sub-Arterial Road
R. Collector Street
S. Local Street
List II: Primary Function
1. Collects and distributes traffic to local streets
2. High mobility, connects major city nodes
3. Connects arterial roads, moderate mobility
4. Provides direct access to abutting properties
(A) P-2, Q-3, R-1, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-3, R-2, S-1

17. Which of the following statements correctly describes the concept of Floor Area Ratio (FAR)?
(A) Ratio of total covered area of all floors to the total area of the plot.
(B) Ratio of the open space to the total built-up area on the ground floor level.
(C) Measurement strictly limited to the maximum height permissible for a building.
(D) Requirements for the front and rear setbacks on a specific designated plot.

18. Consider the following criteria used to determine social infrastructure standards for healthcare facilities in URDPFI:
1. Catchment population size
2. Maximum travel distance or time
3. Minimum land area requirement
4. Proximity to industrial hazard zones
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 2, 3, and 4 only
(C) 1, 3, and 4 only
(D) 1, 2, 3, and 4

19. As an Assistant Town Planner adjusting URDPFI spatial standards for a designated tribal district in Madhya Pradesh (e.g., Alirajpur), which functional modification is most justifiable?
(A) Adjust population catchment norms due to dispersed settlement patterns.
(B) Increasing high-rise residential FAR to encourage vertical urban density.
(C) Mandating wide arterial roads with dedicated BRTS lanes in rural villages.
(D) Abolishing requirements for open green spaces within tribal jurisdictions.

20. Identify the INCORRECT pair regarding land use categories and their typical color coding in Master Plans.
(A) Residential - Yellow
(B) Commercial - Blue
(C) Industrial - Purple
(D) Recreational - Red

21. A developer is planning a layout in an urban expansion zone. The proposed plot sizes and road widths strictly adhere to the state's Bhumi Vikas Niyam, but the zoning is agricultural in the prevailing Master Plan. What is the necessary legal action?
(A) Obtain direct approval for the layout from the local Municipal Corporation.
(B) Carry out statutory land use change under the relevant state planning act.
(C) Request the developer to invoke the specialized Town Planning Scheme model.
(D) Wait for the State Government to issue a completely new Perspective Plan.

22. Read the following statements regarding the integration of land use and transport and select the correct option.
Statement I: Transit-Oriented Development (TOD) principles advocate for lower densities along mass transit corridors to reduce congestion.
Statement II: Mixed-use zoning reduces the need for long-distance commuting.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.

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(D) Statement I is false but Statement II is true.

23. Which of the following represents an exception to the standard application of maximum FAR limits?
(A) Plots situated along arterial roads with mass transit systems.
(B) Greenfield plotting layouts in the metropolitan fringe.
(C) Construction of detached single-family bungalows.
(D) Development in eco-sensitive zones or heritage precincts.

24. What is the most appropriate reason for establishing a hierarchy of plans from national to local levels?
(A) Translate macro socio-economic goals into micro-level implementation.
(B) Facilitate a top-down mandate where local bodies have no decision powers.
(C) Ensure that land pricing remains uniform across all regions of the country.
(D) Delay the development approval process through multiple administrative layers.

25. How is a "National Spatial Plan" conceptually defined in the context of spatial development?
(A) Statutory master plan outlining detailed street layouts for the entire nation.
(B) Strategic framework guiding population, infrastructure, and economic activities.
(C) Single zoning map determining municipal boundaries for all Indian urban areas.
(D) Financial document identical to the Union Budget specific to local real estate.

26. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Five Year Plans in India historically lacked a strong spatial dimension, focusing predominantly on sectoral economic targets.
Reason (R): Spatial planning is constitutionally a State subject, making national economic plans difficult to translate into regional land use directives.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

27. In the context of Madhya Pradesh, which entity holds the authority to constitute a "Planning Area" to facilitate regional and urban planning?
(A) The State Government through a gazette notification
(B) The Central Government
(C) The Mayor of the respective Municipal Corporation
(D) The District Collector

28. Match the type of plan with its primary characteristic.
List I: Type of Plan
P. Perspective Plan
Q. Regional Plan
R. Sub-regional Plan
S. Development Plan
List II: Primary Characteristic
1. Details land use and zoning regulations for a city
2. Long-term visionary document (20-30 years) for policy direction
3. Focuses on an intermediate area to synchronize master plans with regional policies
4. Addresses resource integration and infrastructure across multiple districts
(A) P-2, Q-4, R-3, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-1, R-4, S-3

29. Which of the following statements regarding the National Urban Policy Framework (NUPF) is INCORRECT?
(A) It provides ten core philosophical principles for urban management in India.
(B) It emphasizes building local capacities and integrating urban transport with land use.
(C) It serves as an advisory framework to guide states in formulating their own urban policies.
(D) It legally overrides all existing state town and country planning acts.

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30. Consider the following elements regarding the scope of a Regional Plan:
1. Inter-city transportation networks
2. Preservation of regional ecological assets (like river basins)
3. Detailed plot-level setback dimensions
4. Distribution of major industrial nodes

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

31. Two adjacent districts are experiencing rapid industrialization along a shared highway corridor. To manage this cross-boundary growth effectively, which planning instrument should ideally be employed?
(A) A Zonal Plan limited to the municipal boundaries.
(B) A Sub-Regional Plan encompassing the corridor across both districts.
(C) A Town Planning Scheme for individual villages along the corridor.
(D) A Local Area Plan implemented by local panchayats.

32. Arrange the following steps involved in the preparation of a Regional Plan in the correct chronological sequence:
1. Notification of the Regional Planning Area
2. Publication of the Draft Regional Plan for public objections
3. Conduct of regional surveys and data collection
4. Final approval and enforcement by the competent authority

(A) 3, 1, 2, 4
(B) 1, 3, 2, 4
(C) 1, 2, 3, 4
(D) 3, 2, 1, 4

33. Which of the following is NOT typically considered a cross-boundary planning issue necessitating regional coordination?
(A) Enforcement of local building bye-laws for a single-family home.
(B) Management of an inter-state river basin.
(C) Alignment of a rapid transit rail corridor between twin cities.
(D) Siting of a regional solid waste landfill facility.

34. Read the following statements regarding regional planning coordination and select the correct option.
Statement I: The National Capital Region (NCR) serves as a successful model of multi-state regional planning coordination in India.
Statement II: The NCR Planning Board has the authority to directly acquire land and execute housing projects in participating states.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

35. Identify the correct pair representing a specific regional model and its primary mechanism.
(A) Counter Magnet Area - Deflecting migration away from a central megacity
(B) NCR - Direct federal administration overriding state boundaries
(C) Town Planning Scheme - Macro-level multi-state industrial zoning
(D) Zonal Plan - National level spatial strategy

36. What is the best justification for integrating a perspective plan with the state's five-year economic plans?
(A) Replace professional spatial planners with economists in urban local bodies.
(B) Mandate that all economic activity must occur within urban municipal limits.
(C) Reduce the time span of a perspective plan from twenty years down to five.
(D) Align spatial goals with adequate budgetary allocations over the plan period.

37. Which state acts as a constituent member of the National Capital Region (NCR) alongside Haryana, Rajasthan, and the NCT of Delhi?
(A) Madhya Pradesh
(B) Uttar Pradesh
(C) Punjab
(D) Uttarakhand

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38. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.

Assertion (A): Sub-regional plans are an essential link between the Regional Plan and the Master Plans of individual towns.
Reason (R): They translate the broad regional strategies into district-specific spatial allocations.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

39. Gwalior is designated as a "Counter Magnet Area" to which major urban agglomeration?
(A) Mumbai Metropolitan Region
(B) Ahmedabad-Gandhinagar Region
(C) Indore-Ujjain Region
(D) National Capital Region (Delhi)

40. Match the Planning Authority/Board with its corresponding primary mandate.
List I: Planning Authority/Board
P. District Planning Committee (DPC)
Q. Metropolitan Planning Committee (MPC)
R. NCR Planning Board
S. State Town Planning Department
List II: Primary Mandate
1. Inter-state regional coordination
2. Consolidating plans for rural and urban areas in a district
3. Preparation of Development Plans for planning areas
4. Preparing development plans for agglomerations with >1 million population
(A) P-2, Q-4, R-1, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-4, S-3

41. Which of the following statements correctly identifies the role of the State Government in regional planning?
(A) Handling financial disbursements while leaving all regional planning to the Centre.
(B) Statutory authority to delineate planning areas and notify regional plans.
(C) Requirement of approval from international agencies for all regional plans.
(D) Prohibition from engaging in cross-boundary planning with neighboring states.

42. Consider the following components regarding Regional Plans:
1. Demographic projections
2. Settlement pattern analysis
3. Micro-level building architectural elevations
4. Regional transport networks
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

43. While formulating a sub-regional plan to manage peri-urban growth around a major city, which strategy should a planner prioritize to control urban sprawl?
(A) Designating high-density transit corridors connecting the city core to satellite towns.
(B) Promoting leapfrog development in distant rural agricultural areas.
(C) Banning all commercial development outside the municipal boundary.
(D) Reducing road widths in the peri-urban areas to discourage vehicle entry.

44. Identify the INCORRECT pair of a document and its characteristic.
(A) Perspective Plan - Long-term vision (20-30 years)
(B) Development Plan - Statutory land use document
(C) Annual Action Plan - Long-term regional demographic projection
(D) Zonal Plan - Link between Development Plan and Layout Plan

45. An environmental NGO claims that a newly proposed major dam violates the current spatial policy of the area. Which planning document should be consulted first to verify regional-level resource allocation and ecological conservation zones?
(A) The Ward-level Local Area Plan
(B) The Municipal Solid Waste Bye-laws
(C) The National Building Code
(D) The Regional Plan

46. Read the following statements regarding the 73rd and 74th Constitutional Amendment Acts and select the correct option.
Statement I: The 73rd and 74th Constitutional

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Amendment Acts mandate the creation of DPCs to prepare draft development plans for the district as a whole.
Statement II: DPCs have successfully replaced State Town Planning Departments as the sole authority for drafting Master Plans in Madhya Pradesh.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

47. Which of the following elements is generally EXCLUDED from the preparation of a Regional Spatial Plan?
(A) Identification of growth centers
(B) Individual property ownership records
(C) Delineation of agricultural and forest zones
(D) Inter-district power transmission corridors

48. What is the most appropriate reason for establishing "Counter Magnet Areas" in a regional planning framework?
(A) Centralize all industrial activity within one single geographical location.
(B) Serve strictly as ecological buffers where no human settlement is allowed.
(C) Increase the spatial concentration of slums within secondary regional cities.
(D) Intercept migrants destined for mega-cities by providing economic hubs.

49. How is a "Master Plan" legally differentiated from a "Zonal Plan"?
(A) Master Plan provides the macro framework; Zonal Plan provides micro details.
(B) Master Plan covers specific neighborhoods; Zonal Plan covers the whole state.
(C) Master Plan is an advisory document; Zonal Plan is the statutory document.
(D) Master Plan and Zonal Plan are synonyms used interchangeably in the guidelines.

50. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): A Master Plan is a statutory document that possesses the force of law once notified.
Reason (R): Master Plans are formulated solely by private real estate developers under the guidance of the local municipal commissioner.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

51. In the context of Madhya Pradesh, which master plan notably introduced the concept of extensive transit-oriented development (TOD) corridors along its BRTS network?
(A) Indore Master Plan
(B) Bhopal Master Plan
(C) Ujjain Master Plan
(D) Jabalpur Master Plan

52. Match the Master Plan component with its standard function.
List I: Master Plan Component
P. Vision Statement
Q. Existing Land Use Map
R. Proposed Land Use Map
S. Development Control Regulations (DCR)
List II: Standard Function
1. Determines permissible FAR, setbacks, and building heights
2. Allocates future zones for residential, commercial, and industrial activities
3. Documents current spatial utilization of the city
4. Articulates the long-term socio-economic and spatial aspirations
(A) P-4, Q-3, R-2, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

53. Which of the following statements regarding Development Control Regulations (DCR) is INCORRECT?
(A) DCRs regulate the built form, density, and height of buildings.
(B) DCRs are formulated to prevent haphazard urban development.
(C) DCRs dictate parking requirements based on the functional use of the building.
(D) DCRs strictly prohibit the concept of mixed-use development everywhere in the city.

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54. Consider the following stages in the preparation of a Master Plan:
1. Notification of intent to prepare the plan
2. Collection of primary and secondary data (Surveys)
3. Publication of the draft plan for public objections and suggestions
4. Final approval and gazette notification

Which of the following sequences represents the correct procedural flow?
(A) 2, 1, 3, 4
(B) 1, 2, 3, 4
(C) 1, 3, 2, 4
(D) 2, 3, 1, 4

55. To revitalize an aging inner-city precinct, a planner proposes "mixed-use zoning." Which of the following combinations correctly reflects the principle of mixed-use development?
(A) Isolation of industrial zones from residential zones by a five km buffer area.
(B) Conversion of all residential areas entirely into modern commercial complexes.
(C) Banning of any commercial activity within a one km radius of residential units.
(D) Integrated residential, retail, and office spaces within the same building.

56. Arrange the following steps for changing a designated land use in an approved Master Plan (under standard Town Planning Acts like MPTGNP Act) in chronological order:
1. Application for land use change by owner/ authority
2. Approval/Rejection by the State Government
3. Publication of a public notice inviting objections
4. Technical scrutiny by the Town and Country Planning Department

(A) 1, 4, 3, 2
(B) 1, 3, 4, 2
(C) 4, 1, 3, 2
(D) 3, 1, 4, 2

57. Which of the following is typically EXCLUDED from the contents of a Zonal Development Plan?
(A) Detailed road network and street alignments
(B) National macroeconomic inflation targets
(C) Specific location of neighborhood parks and schools
(D) Demarcation of built-up vs. open space areas

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58. Read the following statements regarding the Master Plan preparation process and select the correct option.
Statement I: The Master Plan preparation process in India incorporates a statutory mechanism for public participation through objections and suggestions.
Statement II: Once a Master Plan is finalized, it cannot be revised or modified until its full 20-year horizon is complete.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

59. A resident wishes to open a small grocery shop on the ground floor of their house located in a strictly residential zone according to the Master Plan. How is this typically addressed in modern Development Control Regulations?
(A) Permissible under "mixed-use" regulations with payment of impact fees.
(B) Necessity to amend the entire city's Master Plan through the state cabinet.
(C) Punishment by immediate demolition of the entire residential housing structure.
(D) Requirement of obtaining a direct clearance from the Chief Minister's office.

60. What is the most appropriate reason for preparing a Zonal Plan in addition to a Master Plan?
(A) Create a secondary taxation system for the benefit of the state government.
(B) Override the environmental regulations established by the National Green Tribunal.
(C) Layer of detailing that operationalizes Master Plan proposals for the local area.
(D) Transfer the ownership of all private lands directly to the municipal body.

61. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, which chapter primarily deals with the preparation of the Development Plan (Master Plan)?
(A) Chapter II
(B) Chapter IV
(C) Chapter VI
(D) Chapter VIII

62. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): In many Indian cities, there is a visible mismatch between the Master Plan proposals and actual on-ground development.
Reason (R): Master plans are often rigid, rely heavily on accurate cadastral maps which are often outdated, and suffer from weak enforcement mechanisms.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

63. The Bhopal Master Plan includes special provisions to protect its extensive water bodies. Which zoning mechanism is typically used to restrict development immediately adjacent to the Upper Lake?
(A) Transit-Oriented Development Zones
(B) No-Construction Buffer / Catchment Conservation Zones
(C) Commercial Mixed-Use Zones
(D) High-Density Residential Zones

64. Match the Development Control terms with their definitions.
List I: Development Control Terms
P. Ground Coverage
Q. Setback
R. Floor Area Ratio
S. Right of Way (RoW)
List II: Definitions
1. Total width of the road including carriageway, footpaths, and margins
2. Minimum open space required around a building structure
3. Ratio of total built-up area to the plot area
4. Maximum percentage of plot area allowed to be covered by the building footprint
(A) P-4, Q-2, R-3, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-4, R-1, S-3

65. Which of the following statements about the distinction between Master Plans and Development Plans is correct?
(A) Development Plan is used as the statutory equivalent of a Master Plan.
(B) Master Plan is for rural areas while Development Plan is for urban settlements.
(C) Development Plan addresses transport while Master Plan addresses only housing.
(D) Master Plans are prepared by the Centre while Development Plans are by States.

66. Consider the following aspects of comprehensive planning:
1. Demographic projections and housing demand
2. Traffic and transportation strategy
3. Individual structural engineering drawings
4. Phasing and investment plan
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

67. A plot measures 500 sq.m. The applicable DCR mandates a maximum Ground Coverage of 40% and an FAR of 1.2. What is the maximum permissible built-up area on this plot?
(A) 200 sq.m
(B) 400 sq.m
(C) 600 sq.m
(D) 800 sq.m

68. Identify the correct pair regarding land use classifications.
(A) Commercial - Large-scale heavy manufacturing and industrial plants.
(B) Recreational - Private retail malls and modern cinema multiplexes.
(C) Residential - Regional wholesale markets and storage warehouse sites.
(D) Public/Semi-Public (PSP) - Educational and medical institutions.

69. During the draft publication of a Master Plan, which of the following is NOT a legally valid ground for filing a public objection?
(A) The proposed road alignment passes through an existing authorized residential structure.

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(B) The objector dislikes the color scheme used for printing the map.
(C) An ecologically sensitive wetland has been erroneously marked for heavy industrial use.
(D) The proposed land use drastically reduces the value of the objector's land compared to a neighbor's land.

70. Read the following statements regarding "Non-conforming land use" and select the correct option.
Statement I: A non-conforming land use is an existing use that was lawful before the Master Plan was adopted but no longer complies with the new zoning regulations.
Statement II: Master Plans typically mandate the immediate, overnight demolition of all non-conforming uses without a phasing-out period.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

71. A city proposes to implement a Transit-Oriented Development (TOD) overlay along a newly constructed metro corridor. Which of the following regulatory adjustments is most appropriate?
(A) Increasing minimum parking requirements to encourage private car usage.
(B) Decreasing ground coverage to force low-density sprawl near the stations.
(C) Restricting pedestrian access to reduce crowd accumulation near stations.
(D) Granting higher FAR and encouraging mixed-use near transit stations.

72. What is the most appropriate reason why URDPFI Guidelines recommend transitioning from "Master Plans" to comprehensive "Development Plans"?
(A) Integration of land use with infrastructure and environmental sustainability.
(B) Simplicity of the plan which only requires an outline of existing roads.
(C) Requirement of parliamentary approval for Master Plans which causes delay.
(D) Permission for private builders to dictate all land use policies locally.

73. How is a "Town Planning Scheme" (TPS) fundamentally defined in urban planning?
(A) Mandatory acquisition using the Land Acquisition Act for public housing.
(B) Land assembly where parcels are pooled and reconstituted with infrastructure.
(C) Provision of financial subsidies for the urban poor to buy high-rise flats.
(D) Strategy to restrict all new physical development in peripheral villages.

74. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): The Town Planning Scheme (TPS) model relies on land pooling and reconstitution rather than bulk land acquisition.
Reason (R): Bulk land acquisition often leads to prolonged litigation, displacement of original landowners, and high upfront financial burdens on the planning authority.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

75. Under the MP Nagar Tatha Gram Nivesh Adhiniyam 1973, which entity is formally responsible for the formulation and execution of a Town Development Scheme (TPS) within a designated planning area?
(A) The Town and Country Planning Directorate and the Development Authority.
(B) The State Finance Commission and the associated Local Municipal Council.
(C) The Ministry of Rural Development and the District Collectorate Office.
(D) Private Real Estate Consortiums and designated Banking Institutions only.

76. Match the Town Planning Scheme (TPS) terms with their meanings.
List I: TPS Terms
P. Original Plot
Q. Final Plot
R. Deduction
S. Betterment Charge

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List II: Meanings
1. A fee levied on the owner for the increase in land value due to infrastructure provision
2. The reconstituted plot handed back to the owner after infrastructure layout
3. The land parcel originally owned by the individual before pooling
4. The percentage of land retained by the authority for roads and public amenities

(A) P-3, Q-2, R-4, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-1, S-4

77. Which of the following statements regarding "Betterment Charges" in a Town Planning Scheme is INCORRECT?
(A) Based on the estimated increase in the value of the final developed plot.
(B) Recovery of the cost of infrastructure development like roads and drainage.
(C) Makes the TPS model largely self-financing compared to traditional models.
(D) Charged at 100% of the increased value, leaving zero profit for owners.

78. Consider the following steps in the layout approval process for a Local Area Plan:
1. Submission of layout plan with title documents
2. Scrutiny of open space and road width norms by the planning authority
3. Payment of external development charges and scrutiny fees
4. Issuance of final layout approval and building permission

(A) 2, 1, 3, 4
(B) 1, 2, 3, 4
(C) 1, 3, 2, 4
(D) 3, 1, 2, 4

79. The concept of "Reconstitution of plots" in a Town Planning Scheme ensures that:
(A) Landowners receive land of identical size regardless of original holdings.
(B) Shape and accessibility are improved, providing each plot with road frontage.
(C) Only commercial builders are allocated the reconstituted plots for profit.
(D) Original landowners are completely relocated to a different urban area.

80. Arrange the typical stages of the Gujarat Model Town Planning Scheme in chronological order:
1. Declaration of intention to make a scheme
2. Preparation and publication of the Draft Scheme
3. Appointment of a Town Planning Officer (TPO) to hear grievances
4. Sanction of the Preliminary Scheme and handing over of final plots

(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 3, 1, 2, 4

81. Which of the following is NOT typically a feature of Special Area Development Plans?
(A) Application of uniform, relaxed building bye-laws allowing hazardous industries.
(B) Focus on conserving heritage precincts or ecologically fragile zones.
(C) Establishment of a dedicated Special Area Development Authority (SADA).
(D) Specialized infrastructure planning suited to the unique character of the area.

82. Read the following statements regarding the 74th Constitutional Amendment Act and select the correct option.
Statement I: The 74th Constitutional Amendment Act envisions Urban Local Bodies (ULBs) playing a central role in local area planning.
Statement II: In many states, parallel parastatal agencies like Development Authorities execute Local Area Plans, often leading to institutional overlaps with ULBs.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

83. A landowner has a 1000 sq.m plot in a proposed TPS area. The authority deducts 40% of the land for roads and parks. The remaining 600 sq.m final plot is valued at Rs. 10,000 per sq.m after development, up from an original value of Rs. 2,000 per sq.m. If the betterment charge is fixed at 50% of the incremental value, what is the basis of this charge?
(A) Capturing unearned increment in land value from public infrastructure.

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(B) Penalizing the landowner for losing forty percent of their original land.
(C) Forcing the landowner to surrender the remaining six hundred square meters.
(D) Subsidizing agricultural activities in neighboring peri-urban villages.

84. What is the biggest advantage of the Town Planning Scheme (TPS) over traditional land acquisition?
(A) Allows the government to acquire land without paying any cash compensation.
(B) Completion within a few weeks compared to years for land acquisition.
(C) Guarantee that no land is utilized for public amenities like local parks.
(D) Owners retain land while the authority secures infrastructure land easily.

85. Which Indian state is most widely recognized for pioneering and successfully implementing the Town Planning Scheme (TPS) model for urban expansion?
(A) Madhya Pradesh
(B) Gujarat
(C) West Bengal
(D) Kerala

86. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): The Town Planning Scheme (TPS) is often described as a self-financing model for urban infrastructure development.
Reason (R): The authority generates revenue by auctioning the land reserved for commercial/ residential sale under the scheme, along with collecting betterment charges.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

87. Which among the following places in Madhya Pradesh has been historically planned and managed under a Special Area Development Authority (SADA) to protect its distinct character?
(A) Pithampur
(B) Mhow Cantonment
(C) Mandideep
(D) Pachmarhi

88. Match the Planning Body/Authority with its primary planning tool.
List I: Planning Body/Authority
P. Development Authority
Q. Municipal Corporation
R. State TCP Department
S. District Planning Committee
List II: Primary Planning Tool
1. Micro-level ward maintenance and local area micro-planning
2. Draft Development Plan formulation and statutory vetting
3. Town Planning Schemes and large-scale land assembly
4. Consolidating Panchayat and Municipal plans into a District Plan
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-3, R-4, S-1
(D) P-4, Q-2, R-1, S-3

89. Which of the following statements correctly defines the scope of a Local Area Plan (LAP)?
(A) Dictating the national GDP targets for the entire real estate sector.
(B) Detailing of streets, public spaces, and infrastructure in a neighborhood.
(C) Involving macro-level mapping of all inter-state river water systems.
(D) Delineating boundaries for state assembly and parliamentary elections.

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90. Consider the following mechanisms of urban land assembly:
1. Bulk Land Acquisition under RFCTLARR Act
2. Land Pooling and Reconstitution (TPS)
3. Transferable Development Rights (TDR)
4. Accommodation Reservation
Which of the above mechanisms are non-monetary or land-based compensation tools used to acquire land for public purpose?
(A) 1 and 2 only
(B) 2, 3, and 4 only

(C) 1, 3, and 4 only
(D) 1, 2, 3, and 4

91. When designing a road network for a new plotted residential layout under a Local Area Plan, a planner must ensure that:
(A) Hierarchy ensuring every plot has access to a street of statutory width.
(B) Local streets ending in dead ends without turnaround spaces for plots.
(C) Provisions for pedestrians with no emergency vehicular access allowed.
(D) Road area exceeding sixty percent of the total residential layout area.

92. Identify the correct pair matching the plan type with its typical mapping scale as per standard norms.
(A) Regional Plan - 1:1,00,000 to 1:2,50,000
(B) Development Plan - 1:100 to 1:500
(C) Zonal Plan - 1:1,00,000
(D) Local Area Plan - 1:50,000 to 1:1,00,000

93. Which of the following land parcels is typically EXCLUDED from the land pooling and reconstitution process in a Town Planning Scheme?
(A) Agricultural land parcels in the peri-urban fringe.
(B) Irregularly shaped vacant plots.
(C) Unplanned, vacant open lands held by multiple private owners.
(D) Existing, legally authorized multi-story apartment complexes.

94. Read the following statements regarding Town Planning Schemes and select the correct option.
Statement I: In a Town Planning Scheme, the cost of infrastructure development is partially recovered through the sale of plots specifically reserved for the planning authority.
Statement II: The landowners in a TPS are completely exempted from paying any taxes or charges for life.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

95. In a proposed Local Area Plan, a developer owns a large but highly fragmented land holding separated by small government nullahs (drains). How can the planner best facilitate cohesive development?
(A) Forcibly acquire the developer's land without any form of compensation.
(B) Use land pooling to realign the nullah and reconstitute the land parcel.
(C) Deny any development permission on the fragmented land parcels forever.
(D) Advise the developer to build over the nullahs without structural plans.

96. What is the best strategy to ensure a Local Area Plan (LAP) is successful?
(A) Ensure it strictly contradicts the overarching Master Plan for innovation.
(B) Restricting community participation to speed up the statutory process.
(C) Focusing on commercial development while ignoring social infrastructure.
(D) Integrate the LAP within the Master Plan for micro-level implementation.

97. As per the Census of India, an "Urban Agglomeration" is defined as:
(A) Continuous urban spread of a core town and its adjoining outgrowths.
(B) A single statutory town with a population exceeding one million people.
(C) Any rural area located within fifty km of a large metropolitan city.
(D) Group of independent cities connected by a national highway corridor.

98. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): The 74th Constitutional Amendment Act mandates the establishment of a Metropolitan Planning Committee (MPC) in every metropolitan area.
Reason (R): Metropolitan areas often encompass multiple municipal corporations, municipalities, and panchayats, necessitating a coordinated regional plan.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.

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(C) A is true but R is false.
(D) A is false but R is true.

99. In the context of Madhya Pradesh, which two cities are increasingly experiencing peri-urban merging, prompting discussions on regional metropolitan coordination similar to the MMR/NCR models?
(A) Indore and Ujjain (including Pithampur/Dewas)
(B) Rewa and Satna
(C) Gwalior and Chhatarpur
(D) Jabalpur and Singrauli

100. Match the Metropolitan Region with its corresponding regional planning body.
List I: Metropolitan Region
P. Mumbai
Q. Delhi
R. Bengaluru
S. Hyderabad
List II: Planning Body
1. HMDA
2. BMRDA
3. MMRDA
4. NCRPB
(A) P-3, Q-4, R-2, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-1, R-4, S-3

101. Which of the following statements regarding multi-municipal coordination in large urban agglomerations is INCORRECT?
(A) It addresses the spillover effects of traffic, pollution, and housing across municipal boundaries.
(B) It eliminates the political and administrative existence of all underlying municipal bodies.
(C) It requires an overarching planning body to synchronize infrastructure networks.
(D) It helps in equitable distribution of regional resources like water and solid waste disposal sites.

102. Consider the following criteria for delineating a Metropolitan Region:
1. Commuter flow patterns (travel-to-work areas)
2. Continuity of built-up areas
3. Administrative boundaries of contiguous districts
4. Shared ecological features like river basins
Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 2 and 3 only
(C) 1, 2, and 4 only
(D) 1, 2, 3, and 4

103. A planner observes rapid, haphazard "leapfrog" development in the peri-urban areas of a growing metropolitan city. Which tool is most effective to manage this growth?
(A) Abolishing the peri-urban panchayats within the designated regional area.
(B) Providing free electricity and water to the haphazard leapfrog projects.
(C) Constructing high-speed expressways exclusively for rural tractor use.
(D) Delineate an urban growth boundary to include the peri-urban fringe.

104. Arrange the evolution of Metropolitan Planning frameworks in India in chronological order:
1. Enactment of the 74th Constitutional Amendment Act mandating MPCs
2. Establishment of the Bombay Metropolitan Region Development Authority (BMRDA)
3. Notification of the URDPFI Guidelines emphasizing Regional Metropolitan Plans
4. First conceptualization of the National Capital Region (NCR) in the Delhi Master Plan
(A) 4, 2, 1, 3
(B) 1, 2, 3, 4
(C) 2, 4, 1, 3
(D) 4, 1, 2, 3

105. Which of the following elements is typically EXCLUDED from Metropolitan Transport Planning?
(A) Integration of suburban rail with city metro systems
(B) Alignment of ring roads and regional bypasses
(C) Route planning for inter-continental maritime shipping
(D) Location of regional inter-state bus terminals (ISBT)

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106. Read the following statements regarding Metropolitan planning and select the correct option.
Statement I: A Regional Metropolitan Plan focuses solely on the core city center, ignoring the fringe areas.
Statement II: The primary function of an MPC is to prepare a draft development plan for the metropolitan area as a whole.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false but Statement II is true.
(D) Statement I is true but Statement II is false.

107. A metropolitan region is planning a massive rapid transit network. To maximize ridership and manage urban sprawl, how should the Regional Metropolitan Plan allocate land uses?
(A) Promote mixed-use Transit-Oriented Development nodes around stations.
(B) Restrict residential zoning near transit hubs to prevent overcrowding.
(C) Place large-scale commercial activities in non-transit accessible areas.
(D) Ensure uniformity of low density across the entire metropolitan region.

108. What is the core challenge in managing peri-urban areas around large agglomerations?
(A) Complete absence of any significant economic activity in the region.
(B) Excessive over-regulation by highly strict urban municipal corporations.
(C) Governance vacuum where urban growth outpaces rural panchayat capacity.
(D) Natural decline in land prices making physical development unviable.

109. According to Article 243P of the Indian Constitution, what is the minimum population threshold for an area to be designated as a "Metropolitan Area"?
(A) 1 Lakh (100,000)
(B) 5 Lakhs (500,000)
(C) 10 Lakhs (1,000,000)
(D) 50 Lakhs (5,000,000)

110. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Census outgrowths (OGs) are considered integral parts of an Urban Agglomeration.
Reason (R): OGs are legally constituted municipalities with their own elected mayors.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

111. The Madhya Pradesh government constituted a Metropolitan Planning Committee for which of the following urban regions to comply with the 74th CAA mandates?
(A) Satna-Maihar
(B) Bhopal and Indore
(C) Hoshangabad-Itarsi
(D) Burhanpur-Khandwa

112. Match the Census classification with its definition.
List I: Census Classification
P. Statutory Town
Q. Census Town
R. Urban Agglomeration
S. Outgrowth
List II: Definition
1. Viable urban area adjacent to a statutory town but lacking a separate civic body
2. Area meeting demographic criteria (population > 5000, density > 400, 75% non-agricultural male workforce) but without a civic body
3. Area governed by a Municipality, Corporation, Cantonment Board, or Notified Town Area Committee
4. Continuous urban spread of a town and its adjoining outgrowths
(A) P-3, Q-2, R-4, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-3, R-1, S-4
(D) P-4, Q-1, R-2, S-3

113. Which statement best describes the "Functional Delineation" of a metropolitan region?
(A) Identifying zones of influence marked by commuting and supply chains.

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(B) Based purely on historical boundaries drawn during the British era.
(C) Following the natural course of a single river irrespective of growth.
(D) Drawing a perfect fifty kilometer radius circle from the city center.

114. Consider the following statements regarding the composition and function of a Metropolitan Planning Committee (MPC):
1. Not less than two-thirds of MPC members shall be elected by, and from amongst, the elected members of the Municipalities and Chairpersons of the Panchayats in the Metropolitan area.
2. The MPC integrates water and environmental conservation plans.
3. The MPC dissolves all local municipal bodies upon constitution.
4. The MPC ensures spatial coordination of investments by state and central agencies.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

115. A city's periphery is experiencing leapfrog development, causing immense pressure on municipal infrastructure extensions. As an Assistant Town Planner, which regulatory mechanism would you deploy to consolidate growth?
(A) Implement an Urban Growth Boundary with phased infrastructure plans.
(B) Deregulate the entire periphery to speed up the leapfrogging projects.
(C) Subsidize petrol prices to encourage further distant vehicle commuting.
(D) Prohibit agricultural activities in a hundred kilometer city radius.

116. Identify the correct pair regarding Metropolitan transport planning integration.
(A) NHAI - Operates inner-city metro rail systems and local tram networks.
(B) RTO - Designs mass rapid transit systems for large metropolitan areas.
(C) City Bus Services - Governs inter-state freight logistics and shipping.
(D) UMTA - Coordinates multiple transport modes and agencies across the region.

117. Which of the following is NOT a typical feature characterizing a rapidly growing Urban Agglomeration?
(A) High degree of economic interdependence between the core city and satellite towns.
(B) Fragmented administrative jurisdictions managing continuous built-up areas.
(C) Uniform and strictly segregated agricultural land uses throughout the core.
(D) High volume of daily commuter traffic crossing municipal boundaries.

118. Read the following statements regarding planning committees and select the correct option.
Statement I: The District Planning Committee (DPC) and Metropolitan Planning Committee (MPC) function simultaneously over the exact same geographical boundaries, sharing duplicate powers.
Statement II: A primary function of the MPC is to reconcile and consolidate the individual plans prepared by the various municipalities and panchayats within the metropolitan area.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

119. In a metropolitan region, a clash of jurisdiction arises where a state-level Development Authority is approving large townships, while the elected Metropolitan Planning Committee claims the right to formulate the overarching spatial plan. Under the spirit of the 74th CAA, how should this be resolved?
(A) The Development Authority should absorb the MPC and dissolve it entirely.
(B) Central Government must take over the metropolitan area under the law.
(C) The region should be divided into several independent urban city-states.
(D) MPC provides macro drafts while the Authority acts as the executor.

120. What is the ultimate, overarching goal of preparing Regional Metropolitan Plans for large urban agglomerations?
(A) Balanced, sustainable development across

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fragmented local boundaries.

(B) Merge all neighboring towns into a single megacity under one Mayor.

(C) Act as a purely academic exercise without statutory implementation.

(D) Concentrate all regional poverty and slums in the outer periphery area.

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ANSWERS

1. (A) Manual for plan formulation, spatial standards, and resource mobilization.
These guidelines provide a comprehensive framework for urban planning across various levels in India. They serve as a technical manual assisting planning agencies in the formulation of perspective and development plans. This document details essential spatial standards, infrastructure norms, and strategies for resource mobilization required for effective and sustainable urban management and organized spatial growth.

2. (C) A is true but R is false.
Spatial planning follows a structured hierarchy where broad regional strategies guide detailed local implementations. While the regional plan establishes the macro policy framework, the local area plan focuses on micro-level development within specific wards. These nested tiers must maintain spatial alignment and consistency to ensure that higher-level planning goals are effectively translated into local implementation actions.

3. (A) Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973
The primary legislative framework for urban development in Madhya Pradesh is the statutory act enacted in 1973. This law empowers state authorities to delineate planning areas and prepare master plans or development plans. It ensures that urban growth follows prescribed norms, providing the legal basis for plan preparation, land use control, and enforcement of planning regulations.

4. (A) P-2, Q-3, R-4, S-1
Standard urban planning guidelines define specific time horizons for different spatial plans to ensure long-term visioning and short-term execution. Perspective plans typically envision the city's future over twenty to thirty years. Regional and development plans often cover a twenty-year period. Conversely, local area plans address immediate requirements and smaller infrastructure projects within a five to twenty-year timeframe.

5. (B) Density norms are uniform across all sizes of urban settlements in India.
Suggested density standards for urban settlements in India are not uniform because they vary based on city size, topography, and existing infrastructure. While gross density covers the entire developed area, net density excludes non-residential uses like major roads. National guidelines provide different recommendations for hill towns and plain areas to accommodate diverse geographic challenges and environmental considerations.

6. (A) 1, 2, and 3 only
Planning responsibilities are divided among different government levels to ensure coordinated development. The central government formulates broad policies, while state governments enact specific town planning legislation. District Planning Committees integrate rural and urban strategies. Contrary to restricted roles, urban local bodies are constitutionally mandated to participate in local planning, ensuring that community needs are addressed at the grassroots.

7. (D) Correlate higher FAR and density allocations along major transit corridors.
Optimized infrastructure utilization in greenfield townships involves aligning built density with the capacity of transport and utility networks. Higher floor area ratios should be concentrated along major transit corridors to support public transportation ridership and reduce urban sprawl. This strategic allocation ensures that residents have easy access to mobility while maximizing the efficiency of water and sewer systems.

8. (A) 2, 4, 1, 3
The planning hierarchy progresses from broad visionary documents to detailed implementation schemes. It begins with the perspective plan, followed by the regional plan which covers multiple districts or sub-regions. The development or master plan then provides specific land use for

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a city. Finally, the local area plan offers micro-level detailing for neighborhoods, completing the top-down spatial framework.

9. (B) Underground Sewerage Networks
Social infrastructure refers to the facilities and services that support the quality of life and human development within a community. Standard categories include educational institutions like schools, healthcare facilities such as hospitals, and recreational spaces like parks. Physical infrastructure, such as sewerage and water supply networks, is classified separately as utility services rather than social infrastructure under standard guidelines.

10. (A) Both Statement I and Statement II are true.
Urban road hierarchy is defined by a balance between mobility and accessibility functions. Arterial roads are the primary conduits for high-speed traffic and large volumes across major city nodes. In contrast, local streets are designed to provide direct access to individual properties and residential units. Proper design ensures that through-traffic is separated from pedestrian-friendly neighborhoods to enhance safety.

11. (A) General Hospital - 2,50,000 population
Social infrastructure norms define the population size required to support specific public facilities efficiently. A general hospital is typically planned to serve a large catchment of approximately two hundred and fifty thousand people to ensure the viability of specialized medical services. These standards assist planners in allocating land for schools, parks, and healthcare centers based on projected demographic growth.

12. (C) Contextualize spatial norms based on regional topography and local needs.
National planning guidelines serve as advisory frameworks that states adapt to suit their specific geographic and socio-economic conditions. Modifying these standards allows for variations in topography, such as mountainous or coastal regions, which require different density and infrastructure norms. Contextualization ensures that urban development rules are practical, relevant, and responsive to the unique challenges of local environments.

13. (C) 2014
The Ministry of Urban Development released the revised guidelines in 2014 to modernize the previous 1996 framework. These updated standards incorporate contemporary planning concepts such as transit-oriented development, environmental sustainability, and regional integration. They provide state governments and planning authorities with a comprehensive reference for formulating master plans and managing urban growth in the twenty-first century.

14. (C) A is true but R is false.
Road design standards dictate that higher-order roads require wider rights of way to accommodate multiple lanes and high traffic volumes. Arterial roads prioritize mobility and connect major city zones. However, collector streets are intended to gather traffic from local streets and channel it toward arterials. They are not designed for heavy inter-city freight, which is typically diverted to bypasses.

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15. (B) Linking density to the width of the approach road and infrastructure.
Residential density in major cities is regulated by the capacity of the surrounding physical environment. State building rules determine permissible density based on the width of the adjacent road and the availability of essential utilities like water and sewerage. This linkage prevents over-intensification in areas with narrow streets and ensures that the built environment remains sustainable and accessible.

16. (A) P-2, Q-3, R-1, S-4
Road classifications reflect a functional hierarchy based on movement and access. Arterial roads facilitate high-speed mobility between major nodes, while sub-arterials connect these arterials with moderate speeds. Collector streets serve as links that gather traffic from local residential streets. Local streets provide the final point of access to buildings, prioritizing pedestrian safety and proximity over vehicular speed.

17. (A) Ratio of total covered area of all floors to the total area of the plot.
Floor area ratio is a critical development control tool used to regulate the total built volume on a specific land parcel. It is calculated by dividing

the total floor area of all building levels by the total plot area. By controlling this ratio, planning authorities manage the intensity of land use, infrastructure demand, and the overall urban skyline.

18. (A) 1, 2, and 3 only
Determining standards for healthcare facilities involves analyzing several spatial and demographic factors. Planners consider the size of the population served, the time or distance residents must travel to reach the facility, and the minimum land area required for medical operations. While safety is important, proximity to industrial hazards is generally a zoning consideration rather than a primary facility standard.

19. (A) Adjust population catchment norms due to dispersed settlement patterns.
Planning for tribal districts requires flexibility to account for unique spatial distributions and low-density settlements. Standard population norms for facilities like schools or clinics may need adjustment because residents are often spread across large, rugged terrains. Lowering the catchment threshold ensures that remote communities have equitable access to essential social infrastructure despite not meeting typical urban population density requirements.

20. (D) Recreational - Red
Standardized color coding in master plans ensures clarity and consistency across different planning documents. Residential areas are typically shown in yellow, while commercial and industrial zones use blue and purple, respectively. Recreational spaces, such as parks and playgrounds, are traditionally represented in green. Red is generally reserved for public and semi-public facilities or administrative uses in spatial mapping.

21. (B) Carry out statutory land use change under the relevant state planning act.
Legal development requires that any proposed project aligns with the designated land use in the official master plan. If a developer intends to build on land zoned for agriculture, a formal process for land use modification must be initiated. This involves technical review and public notification as prescribed by state law to ensure the change serves the broader urban interest.

22. (D) Statement I is false but Statement II is true.
Sustainable urban planning promotes the integration of land use and transport to minimize travel needs. Transit-oriented development advocates for higher densities along mass transit corridors to maximize public transport usage. Additionally, mixed-use zoning allows residents to live near their workplaces and shops, effectively reducing the reliance on long-distance commuting and helping to decrease overall urban traffic congestion.

23. (D) Development in eco-sensitive zones or heritage precincts.
While urban areas often allow for higher floor area ratios along transit lines to optimize land use, certain sensitive regions require strict restrictions. Eco-sensitive zones and heritage precincts are exceptions where development intensity is limited to preserve natural resources or historical character. In these areas, maintaining a low built-up volume is prioritized over maximizing the commercial or residential potential.

24. (A) Translate macro socio-economic goals into micro-level implementation.
A hierarchy of plans ensures that high-level national and regional policies are effectively operationalized at the local level. Macro-level goals regarding economic growth and regional connectivity are broken down into manageable strategies within development plans and local area schemes. This structured approach allows for coordinated infrastructure investment while ensuring that local developments contribute to broader regional and national objectives.

25. (B) Strategic framework guiding population, infrastructure, and economic activities.
A national spatial plan acts as a high-level strategic document that outlines the long-term spatial distribution of a country's population and resources. It identifies major growth corridors, regional hubs, and essential infrastructure networks. Unlike detailed municipal maps, it focuses on broad policy directions to achieve balanced regional development and efficient management of natural and economic assets nationwide.

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26. (A) Both A and R are true and R is the correct explanation of A.
Historically, economic planning in India focused on sectoral targets while lacking a robust spatial dimension. Because land and urban development are state subjects under the constitution, national economic directives often struggled to translate into specific regional land use policies. This separation created a gap between national investment strategies and the physical development occurring on the ground within states.

27. (A) The State Government through a gazette notification
The authority to define a planning area is a statutory power held by the state government. By issuing a formal gazette notification, the government demarcates the geographical boundaries within which town planning regulations will apply. This legal step is necessary before a planning authority can begin the process of formulating development plans or enforcing land use controls in the region.

28. (A) P-2, Q-4, R-3, S-1
Different planning instruments serve distinct roles within the urban development framework. Perspective plans provide long-term visionary directions, while regional plans coordinate resources across multiple districts. Sub-regional plans act as intermediate links to synchronize master plans with broader regional policies. Finally, development plans provide the statutory land use and zoning regulations required for managing the growth and physical layout of cities.

29. (D) It legally overrides all existing state town and country planning acts.
The national framework provides a set of philosophical principles and strategic guidelines to modernize urban management across the country. It emphasizes local capacity building and integrated transport planning. However, it functions as an advisory document rather than a legally binding mandate. States retain the constitutional authority to govern land use through their own town and country planning legislation.

30. (A) 1, 2, and 4 only
Regional plans focus on large-scale spatial coordination and resource management across multiple administrative boundaries. They address inter-city transportation networks, the preservation of large ecological assets like river basins, and the strategic distribution of major industrial nodes. Detailed micro-level specifications, such as plot setbacks, are excluded from this macro-level planning and are instead managed within local development plans.

31. (B) A Sub-Regional Plan encompassing the corridor across both districts.
Managing rapid growth along an industrial corridor that spans multiple districts requires a coordinated approach. A sub-regional plan is the most effective instrument as it provides a spatial framework that transcends individual municipal boundaries. It ensures that infrastructure development, environmental protection, and land use zoning are consistent across the entire corridor, preventing haphazard and disconnected urban sprawl.

32. (B) 1, 3, 2, 4
The preparation of a regional plan follows a strict statutory sequence to ensure transparency and technical accuracy. The process begins with the formal notification of the planning area. Subsequently, planners conduct extensive surveys and data collection. A draft plan is then published to invite public feedback. Finally, the plan undergoes revisions and receives official approval for legal enforcement and implementation.

33. (A) Enforcement of local building bye-laws for a single-family home.
Regional coordination is necessary for issues that impact multiple jurisdictions, such as river basin management, inter-city transit rail corridors, and the siting of large-scale waste facilities. These projects have wide-reaching effects on the environment and regional infrastructure. In contrast, enforcing building bye-laws for an individual residential home is a micro-level task handled exclusively by local municipal or town planning authorities.

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34. (C) Statement I is true but Statement II is false.
The National Capital Region planning board serves as a prominent model for inter-state coordination, bringing together multiple states to manage urban growth around the capital. However, the board does not possess the authority to directly acquire land or execute projects in participating states. Its role is primarily to formulate the regional plan and coordinate the actions of state-level implementing agencies.

35. (A) Counter Magnet Area - Deflecting migration away from a central megacity
A counter magnet area is a strategic regional planning model designed to reduce population pressure on a major megacity. By developing economic hubs and infrastructure in secondary cities, planners aim to intercept potential migrants. This approach encourages balanced regional growth and prevents the over-concentration of population and resources in a single metropolitan center, easing the burden on core urban services.

36. (D) Align spatial goals with adequate budgetary allocations over the plan period.
Integrating a perspective plan with five-year economic plans is essential for ensuring that long-term spatial visions are financially feasible. This alignment allows the government to allocate necessary budgets for infrastructure projects and social facilities over successive planning periods. It bridges the gap between physical planning goals and the economic resources required to transform those visions into reality on the ground.

37. (B) Uttar Pradesh
The National Capital Region is a unique multi-state planning area established to manage the rapid urbanization surrounding Delhi. It includes territories from the neighboring states of Haryana, Rajasthan, and Uttar Pradesh. This collaborative framework allows for the coordinated development of infrastructure, transport, and land use policies across state boundaries to ensure the sustainable growth of the entire metropolitan region.

38. (A) Both A and R are true and R is the correct explanation of A.
Sub-regional plans serve as a vital intermediary in the planning hierarchy, linking macro-level regional strategies with the micro-level master plans of cities. They translate broad regional goals into specific spatial directives and resource allocations for a district. This ensures that local urban development remains consistent with the larger regional objectives for infrastructure connectivity, environmental protection, and economic growth.

39. (D) National Capital Region (Delhi)
Gwalior is designated as a counter magnet city for the National Capital Region to alleviate the immense population and infrastructure pressure on Delhi. By enhancing Gwalior's economic opportunities and urban facilities, the regional strategy aims to attract residents and investments that would otherwise gravitate toward the national capital. This helps in achieving a more balanced distribution of urban growth.

40. (A) P-2, Q-4, R-1, S-3
Different planning bodies have distinct mandates within the Indian urban governance framework. District Planning Committees consolidate rural and urban plans, while Metropolitan Planning Committees prepare drafts for large agglomerations exceeding one million people. The NCR Planning Board handles inter-state regional coordination, and State Town Planning Departments are typically responsible for preparing statutory development plans for designated planning areas.

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41. (B) Statutory authority to delineate planning areas and notify regional plans.
State governments play a central role in regional planning because land use and urban development are constitutionally designated as state subjects. They hold the legal power to define the boundaries of planning areas and formally notify regional plans through official gazettes. This authority allows states to coordinate development across districts and manage regional resources, transportation networks, and environmental conservation efforts.

42. (A) 1, 2, and 4 only
Regional plans address macro-level spatial components such as demographic trends, settlement patterns, and large-scale transport networks across multiple districts. They provide a broad framework for managing population

growth and regional connectivity. Detailed architectural specifications and structural drawings for individual buildings are entirely outside the scope of regional planning and are managed through local building bye-laws and site-specific permits.

43. (A) Designating high-density transit corridors connecting the city core to satellite towns.
To control urban sprawl in peri-urban areas, planners prioritize high-density transit corridors that concentrate growth along specific transit lines. This strategy promotes transit-oriented development, encouraging people to live in compact settlements with easy access to public transport. By focusing development in these areas, authorities can protect agricultural land and natural resources while ensuring efficient infrastructure delivery to growing populations.

44. (C) Annual Action Plan - Long-term regional demographic projection
Urban planning involves documents with varying timeframes and purposes. Perspective plans provide long-term visions, while development plans are statutory land use documents. Zonal plans offer a link between citywide master plans and local layouts. However, an annual action plan focuses on short-term implementation and budgetary allocations for the current year, rather than long-term regional demographic projections.

45. (D) The Regional Plan
The regional plan is the primary document to consult for macro-level resource allocation and the identification of ecological conservation zones. It outlines major infrastructure projects like dams and protects regional natural assets such as river basins and forests. Because it covers a broad geographic area, it provides the necessary spatial context to verify if large-scale developments align with regional environmental policies.

46. (C) Statement I is true but Statement II is false.
The 73rd and 74th constitutional amendments mandated the creation of District Planning Committees to consolidate plans for both rural and urban areas within a district. While these committees prepare draft development plans, they have not replaced state town planning departments. The state departments continue to provide the technical expertise and statutory vetting required for finalizing and enforcing master plans.

47. (B) Individual property ownership records
Regional spatial plans focus on broad strategies such as identifying growth centers, delineating forest zones, and planning inter-district power transmission corridors. They deal with large-scale land use and infrastructure coordination across multiple jurisdictions. Detailed information regarding individual property ownership is contained in land revenue records and cadastral maps, which are too specific for the macro-level analysis required in regional plans.

48. (D) Intercept migrants destined for mega-cities by providing economic hubs.
Counter magnet areas are established to intercept potential migrants heading toward overcrowded mega-cities. By developing these secondary cities into strong economic hubs with high-quality infrastructure, regional planners aim to distribute urban growth more evenly. This strategy reduces the immense pressure on the core services and housing markets of the primary metropolitan centers, fostering more sustainable regional development patterns.

49. (A) Master Plan provides the macro framework; Zonal Plan provides micro details.
A master plan serves as the overarching statutory document for an entire city, defining macro-level land use and broad infrastructure strategies. In contrast, a zonal plan provides more detailed spatial planning for a specific segment or zone of the city. It refines the master plan's proposals by detailing local roads, community facilities, and specific zoning regulations at a neighborhood level.

50. (C) A is true but R is false.
A master plan is a statutory document that becomes legally binding once it is notified in the official gazette. It is formulated by state-designated town planning authorities rather than private developers. The preparation process involves professional spatial analysis and mandatory public consultation. Once approved, all development within the planning area must

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strictly comply with the land use and regulations specified.

51. (A) Indore Master Plan
The master plan for Indore is recognized for incorporating transit-oriented development principles to capitalize on its Bus Rapid Transit System network. By allowing higher density and mixed-use development along these corridors, the plan aims to increase public transport ridership and create vibrant urban spaces. This approach integrates transport planning with land use to manage the city's rapid growth more efficiently.

52. (A) P-4, Q-3, R-2, S-1
Master plans consist of several key components that guide urban growth. The vision statement sets long-term goals, while the existing land use map documents current spatial patterns. The proposed land use map allocates future zones for different activities. Finally, development control regulations establish the legal standards for building heights, setbacks, and density, ensuring that individual projects align with the overall plan.

53. (D) DCRs strictly prohibit the concept of mixed-use development everywhere in the city.
Development control regulations are essential tools for managing built form, density, and parking requirements to prevent haphazard growth. They are designed to ensure safety and order in the urban environment. Modern regulations often encourage mixed-use development in specific zones to reduce travel demand and enhance urban vitality, rather than imposing a blanket prohibition on combining residential and commercial activities.

54. (B) 1, 2, 3, 4
The preparation of a master plan follows a logical statutory sequence starting with the formal notification of intent. Planners then conduct detailed surveys to collect primary and secondary data. Once a draft plan is prepared, it is published to invite public objections and suggestions. After addressing these inputs, the plan receives final approval and is gazetted to become legally enforceable.

55. (D) Integrated residential, retail, and office spaces within the same building.
Mixed-use development involves integrating multiple functions, such as residential, retail, and office spaces, within the same building or neighborhood. This planning principle aims to create walkable urban environments where people can live, work, and shop in close proximity. By reducing the distance between daily activities, mixed-use zoning helps decrease traffic congestion and supports more sustainable and vibrant communities.

56. (A) 1, 4, 3, 2
Changing a designated land use in an approved plan requires a specific legal process. It begins with an application, followed by technical scrutiny by the town planning department. A public notice is then published to invite objections from the community. Finally, after considering all technical and public inputs, the state government issues a formal approval or rejection of the requested modification.

57. (B) National macroeconomic inflation targets
Zonal development plans focus on specific spatial details such as neighborhood road networks, the location of local parks, and the demarcation of built-up areas. They bridge the gap between the city-wide master plan and local layout designs. Macroeconomic factors like national inflation targets are purely economic indicators and are not included in spatial planning documents, which focus on physical development and land use.

58. (C) Statement I is true but Statement II is false.
The master plan preparation process includes a statutory requirement for public participation, allowing residents to file objections and suggestions. While these plans have long-term horizons, they are not permanently fixed. Most town planning acts include provisions for periodic reviews and modifications to ensure the plan remains responsive to changing socio-economic conditions and unforeseen urban development needs over time.

59. (A) Permissible under "mixed-use" regulations with payment of impact fees.
Modern development control regulations often include provisions for mixed-use, allowing

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small-scale commercial activities like grocery shops within residential zones. This flexibility recognizes the need for neighborhood-level services and helps reduce local travel. Typically, such uses are permitted subject to specific criteria, such as road width and the payment of impact fees, without requiring a comprehensive amendment to the city's entire master plan.

60. (C) Layer of detailing that operationalizes Master Plan proposals for the local area.
Zonal plans are prepared to provide a more detailed level of spatial planning that is not possible in a city-wide master plan. They operationalize macro proposals by detailing local infrastructure, specific street alignments, and the exact locations of social facilities. This extra layer of planning ensures that the broad goals of the master plan are effectively implemented at the neighborhood level.

61. (B) Chapter IV
The Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, is organized into chapters that define the powers and procedures for urban planning. Chapter IV specifically details the requirements for preparing and notifying the development plan, which serves as the master plan for a city. It outlines the statutory obligations of the planning authority and the process for securing state government approval.

62. (A) Both A and R are true and R is the correct explanation of A.
Many Indian cities face a significant gap between master plan proposals and the actual physical development on the ground. This mismatch is often caused by rigid planning frameworks that rely on outdated cadastral maps and insufficient data. Furthermore, weak enforcement mechanisms make it difficult for authorities to prevent unauthorized construction and ensure that new developments strictly follow the designated land use zones.

63. (B) No-Construction Buffer / Catchment Conservation Zones
Protecting urban water bodies requires specialized zoning that restricts development in sensitive areas. For the Upper Lake in Bhopal, authorities use no-construction buffer zones and catchment conservation zones to prevent pollution and encroachment. These regulations ensure that the natural environment is preserved, safeguarding the city's water source and maintaining its ecological balance by limiting the intensity of human activity nearby.

64. (A) P-4, Q-2, R-3, S-1
Development control terms define the parameters for building on a plot. Ground coverage limits the building footprint, while setbacks ensure open space around structures. The floor area ratio regulates the total built-up volume relative to the plot size. The right of way defines the total width of the road corridor, including lanes and footpaths, providing the essential spatial framework for urban mobility.

65. (A) Development Plan is used as the statutory equivalent of a Master Plan.
In the Indian context, the terms master plan and development plan are often used interchangeably to refer to the statutory document that guides a city's growth. Both types of plans define land use, infrastructure networks, and development regulations for a specific urban area. State planning acts typically use the term development plan to describe the legally enforceable spatial framework for designated planning areas.

66. (A) 1, 2, and 4 only
Comprehensive planning involves high-level strategies such as projecting housing demand, formulating transport strategies, and creating investment plans for infrastructure. It focuses on managing the overall growth and resource allocation of a city or region. Detailed engineering drawings for individual buildings are not part of this process; instead, they are submitted separately during the building permit phase to ensure structural safety and code compliance.

67. (C) 600 sq.m
The maximum permissible built-up area is determined by multiplying the total plot area by the applicable floor area ratio. For a plot of five hundred square meters with an FAR of 1.2, the total allowed area is six hundred square meters. Ground coverage acts as a separate constraint on the building's footprint but does not directly reduce the total floor area allowed by the FAR.

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68. (D) Public/Semi-Public (PSP) - Educational and medical institutions.
Land use classifications categorize urban spaces based on their primary function. The public and semi-public category specifically includes essential social infrastructure such as schools, colleges, and hospitals. Commercial zones are reserved for retail and offices, while recreational zones focus on parks and open spaces. Proper classification ensures that compatible uses are grouped together and that the city provides adequate space for essential community services.

69. (B) The objector dislikes the color scheme used for printing the map.
Public objections to a draft master plan must be based on substantive planning or legal grounds. Valid reasons include errors in land use marking, threats to ecologically sensitive areas, or impacts on authorized properties. Subjective preferences, such as a dislike for the aesthetic color scheme used on a map, do not constitute a legally valid ground for challenging the statutory proposals during the consultation phase.

70. (C) Statement I is true but Statement II is false.
Non-conforming land use refers to activities that were legal before a new master plan but do not match the new zoning. While these uses are technically inconsistent, they are not typically demolished overnight. Master plans usually include provisions for a phasing-out period, allowing these activities to continue for a set time or until the property is redeveloped, ensuring a fair transition to new regulations.

71. (D) Granting higher FAR and encouraging mixed-use near transit stations.
Transit-oriented development aims to maximize the utility of mass transit by concentrating growth around stations. By granting higher floor area ratios and encouraging mixed-use development in these areas, planners create compact, walkable environments. This strategy increases public transport ridership, reduces the need for private vehicles, and fosters vibrant urban hubs that support a high intensity of economic and social activity.

72. (A) Integration of land use with infrastructure and environmental sustainability.
Modern guidelines emphasize moving beyond simple land use maps toward comprehensive development plans. These newer plans integrate spatial development with infrastructure planning and environmental protection. This holistic approach ensures that urban growth is supported by adequate services and is sustainable in the long term. It addresses contemporary challenges such as climate change and resource management, which were often neglected in traditional master planning.

73. (B) Land assembly where parcels are pooled and reconstituted with infrastructure.
A town planning scheme is a land assembly mechanism where individual land parcels are pooled together without formal acquisition. The planning authority then redesigns the layout to include roads and public amenities. After providing infrastructure, the reconstituted plots are returned to the original owners. This model allows for organized urban expansion while ensuring that landowners benefit from the increased property value resulting from the development.

74. (A) Both A and R are true and R is the correct explanation of A.
The town planning scheme model is preferred because it avoids the difficulties associated with bulk land acquisition. Traditional acquisition often leads to long legal battles over compensation and displaces residents. In contrast, land pooling allows owners to retain most of their land while the authority secures space for infrastructure. This collaborative approach reduces financial strain on the government and fosters better community cooperation.

75. (A) The Town and Country Planning Directorate and the Development Authority.
In Madhya Pradesh, the formulation and execution of urban development schemes are the responsibility of the state town planning directorate and designated development authorities. These entities work together to design layouts, manage land pooling, and implement infrastructure projects. They ensure that the schemes follow statutory procedures and

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align with the broader goals of the city's master plan for organized and sustainable urban growth.

76. (A) P-3, Q-2, R-4, S-1
Town planning schemes use specific terms to manage land reconstitution. The original plot is the parcel owned before pooling, while the final plot is the reconstituted land returned after development. Deduction refers to the percentage of land taken for public amenities. Betterment charges are fees levied on owners to recover infrastructure costs, reflecting the increase in land value generated by the scheme's improvements.

77. (D) Charged at 100% of the increased value, leaving zero profit for owners.
Betterment charges are a key feature of self-financing town planning schemes. They represent a portion of the unearned increment in land value resulting from public infrastructure. These fees help recover the costs of roads and drainage. However, they are never charged at the full hundred percent of the increased value. Owners are allowed to retain a significant profit, ensuring their continued participation and support.

78. (B) 1, 2, 3, 4
The layout approval process for a local area plan follows a standard administrative path. It starts with the submission of the plan and ownership documents. The planning authority then scrutinizes the proposal for compliance with road and open space norms. Once the developer pays the required development and scrutiny fees, the final approval and building permissions are issued to allow construction to proceed.

79. (B) Shape and accessibility are improved, providing each plot with road frontage.
Reconstitution of plots is a central process in land pooling that transforms irregular and inaccessible parcels into well-shaped, developable lots. By realigning boundaries, the planning authority ensures that every final plot has direct access to a public road and is properly serviced by utilities. this improvement significantly enhances the land's utility and market value, benefiting the original owners while facilitating organized urban layout.

80. (A) 1, 2, 3, 4
The Gujarat town planning scheme model follows a transparent statutory sequence. It begins with the declaration of intention, followed by the publication of the draft scheme. A town planning officer is then appointed to resolve grievances and finalize the redistribution of land. The process concludes with the sanction of the preliminary scheme, allowing the authority to hand over final plots and commence infrastructure work.

81. (A) Application of uniform, relaxed building bye-laws allowing hazardous industries.
Special area development plans are designed for regions with unique characteristics, such as heritage precincts or ecologically fragile zones. They often involve the creation of a dedicated authority to manage specialized infrastructure. These plans focus on conservation and tailored development rather than relaxing safety standards. Hazardous industries are generally restricted or strictly regulated to protect the distinct environmental or historical character of the designated special area.

82. (A) Both Statement I and Statement II are true.
The 74th constitutional amendment aimed to empower urban local bodies by giving them a central role in local planning. However, in practice, many states still use parastatal agencies like development authorities to execute large projects. This creates institutional overlaps where both organizations may have competing jurisdictions over the same urban areas, often complicating the planning and implementation process at the local level.

83. (A) Capturing unearned increment in land value from public infrastructure.
Betterment charges are based on the principle of value capture, where the government recovers a portion of the profit landowners gain from public investments. When infrastructure like new roads increases property values, the authority levies a charge to fund those developments. This ensures that the benefits of public spending are shared, making urban expansion schemes financially sustainable without relying solely on general tax revenue.

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84. (D) Owners retain land while the authority secures infrastructure land easily.
The primary advantage of the town planning scheme is that it facilitates land assembly without the conflict of traditional acquisition. Landowners keep a large portion of their property, which becomes more valuable due to new infrastructure. Simultaneously, the planning authority obtains the land needed for roads, parks, and schools without paying large sums of cash compensation, making it a win-win model for all stakeholders.

85. (B) Gujarat
Gujarat is widely recognized as the pioneer of the town planning scheme model in India. The state has successfully used land pooling and reconstitution to manage urban expansion in cities like Ahmedabad and Surat for decades. Its robust legal framework and efficient implementation process have made this model a benchmark for other states seeking to avoid the delays and high costs associated with traditional land acquisition.

86. (A) Both A and R are true and R is the correct explanation of A.
Town planning schemes are often self-financing because they generate revenue through multiple mechanisms. The authority recovers infrastructure costs by collecting betterment charges from landowners who benefit from the project. Additionally, the authority can reserve and auction land for commercial or residential sale within the scheme area. This income helps fund the construction of roads, parks, and utility networks required for the new development.

87. (D) Pachmarhi
Pachmarhi is a unique hill station in Madhya Pradesh that has been managed under a special area development authority. This specialized governance is necessary to protect its sensitive ecological environment and historical character. The authority ensures that development is strictly controlled to prevent environmental degradation while managing the needs of tourism and local residents in a way that preserves the area's distinct natural beauty.

88. (A) P-3, Q-1, R-2, S-4
Urban planning involves various bodies with specific tools. Development authorities often use town planning schemes for large-scale land assembly. Municipal corporations handle micro-level ward maintenance and local planning. The state town planning department is responsible for formulating and vetting statutory development plans. District Planning Committees serve the crucial role of consolidating both rural and urban plans into a single, cohesive district-level development strategy.

89. (B) Detailing of streets, public spaces, and infrastructure in a neighborhood.
Local area plans focus on micro-level spatial detailing for specific neighborhoods or precincts. They provide precise information on street designs, the placement of public open spaces, and the layout of local infrastructure like water lines and street lighting. Unlike broad regional plans, these schemes address the immediate physical environment, ensuring that the community's daily needs for accessibility and services are met effectively.

90. (B) 2, 3, and 4 only
Modern planning uses several non-monetary tools to acquire land for public purposes. Land pooling and reconstitution return developed plots to owners instead of cash. Transferable development rights allow owners to move their building potential to other areas. Accommodation reservation permits development on part of a plot while surrendering the rest for public use. These mechanisms reduce the government's financial burden compared to traditional bulk land acquisition.

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91. (A) Hierarchy ensuring every plot has access to a street of statutory width.
When designing local road networks, planners must establish a clear hierarchy that ensures every residential plot has safe and legal access to a public street. These streets must meet statutory width requirements to accommodate both daily traffic and emergency vehicles. This organized layout prevents congestion and ensures that the residential environment is well-connected, functional, and compliant with safety standards for all inhabitants.

92. (A) Regional Plan - 1:1,00,000 to 1:2,50,000
Mapping scales in urban planning vary according to the level of detail required for each plan type. Regional plans use small scales, such as one to two hundred and fifty thousand, to cover large geographic areas. Development plans and local area plans use much larger scales to provide the precision needed for city-level zoning and neighborhood layouts. Accurate scaling is essential for effective spatial analysis and implementation.

93. (D) Existing, legally authorized multi-story apartment complexes.
Land pooling and reconstitution are most effective for vacant or underutilized land parcels that require organized layout and infrastructure. Existing multi-story apartment complexes that are already legally authorized and fully developed are typically excluded from this process. Attempting to include such structures would be highly disruptive and unnecessary, as they already possess the high-density character and infrastructure that the scheme aims to achieve elsewhere.

94. (C) Statement I is true but Statement II is false.
Town planning schemes generate revenue by selling some reserved plots to recover the costs of infrastructure development. This makes the projects financially viable for the planning authority. However, landowners are never exempted from taxes or charges for life. While they benefit from the initial scheme, they remain responsible for paying standard municipal taxes and maintenance fees required to support city services over the long term.

95. (B) Use land pooling to realign the nullah and reconstitute the land parcel.
Land pooling offers a creative solution for fragmented land holdings by allowing the planning authority to realign natural features like small drains during the layout process. By pooling fragmented parcels, the authority can create a cohesive development plan that optimizes the use of the entire area. This process reconstitutes the land into more usable shapes and ensures that infrastructure can be delivered efficiently across the whole site.

96. (D) Integrate the LAP within the Master Plan for micro-level implementation.
The success of a local area plan depends on its integration with the broader city master plan. While the master plan provides the overall vision and macro-level zoning, the local plan offers the micro-level details needed for actual implementation on the ground. This consistency ensures that neighborhood developments contribute to the city's overall spatial goals while addressing the specific needs and characteristics of the local community.

97. (A) Continuous urban spread of a core town and its adjoining outgrowths.
An urban agglomeration is a demographic concept used by the census to describe the continuous physical expansion of a city. It includes the core statutory town along with its adjoining outgrowths, such as residential areas or industrial estates that have developed just outside the official municipal boundaries. This definition helps planners understand the true extent of urbanization and the need for coordinated regional services.

98. (A) Both A and R are true and R is the correct explanation of A.
Large urban agglomerations often span multiple local jurisdictions, including several municipalities and rural panchayats. To ensure coordinated growth, the constitution mandates the creation of Metropolitan Planning Committees. These bodies are responsible for preparing integrated development plans that address regional issues such as transport, water supply, and environmental management, ensuring that all local authorities work together toward common goals for the entire metropolitan area.

99. (A) Indore and Ujjain (including Pithampur/ Dewas)
In Madhya Pradesh, the region encompassing Indore and Ujjain is witnessing significant peri-urban growth and merging. This area, which includes industrial hubs like Pithampur and Dewas, increasingly functions as a single metropolitan entity. This trend has prompted discussions on the need for formal metropolitan coordination and planning to manage the rapid urbanization and integrated infrastructure

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requirements of this expanding regional urban complex.

100. (A) P-3, Q-4, R-2, S-1
Major metropolitan regions in India are managed by dedicated regional planning bodies. The Mumbai Metropolitan Region is overseen by its development authority, while the National Capital Region is coordinated by a central planning board. Similarly, Bengaluru and Hyderabad have their own specialized regional agencies. These bodies ensure that infrastructure and land use are planned cohesively across the various municipalities that make up these large urban agglomerations.

101. (B) It eliminates the political and administrative existence of all underlying municipal bodies.
Multi-municipal coordination is designed to address spillover effects such as regional traffic and pollution that cross local boundaries. It involves creating overarching planning bodies to synchronize infrastructure networks like water and waste management. Crucially, this coordination does not dissolve the existing local governments. Instead, it provides a framework for these municipal bodies to work together on regional issues while maintaining their own local administrative identities.

102. (D) 1, 2, 3, and 4
Delineating a metropolitan region involves analyzing multiple factors that define its functional and physical extent. Planners look at commuting patterns to identify travel-to-work areas and map the continuity of built-up zones. They also consider administrative boundaries and shared ecological features like river basins. Combining these social, economic, and physical criteria ensures that the delineated region reflects the actual urban influence and facilitates effective integrated planning.

103. (D) Delineate an urban growth boundary to include the peri-urban fringe.
An urban growth boundary is a strategic tool used to manage leapfrog development by defining where urban expansion is permitted. By including the peri-urban fringe within this boundary, planners can direct growth toward areas with planned infrastructure. This helps consolidate development, prevents haphazard sprawl into distant agricultural lands, and ensures that municipal services can be extended in a more efficient and cost-effective manner.

104. (A) 4, 2, 1, 3
Metropolitan planning in India has evolved from early conceptualizations in the Delhi master plan to formal constitutional mandates. The establishment of specific metropolitan authorities in cities like Mumbai preceded the 74th constitutional amendment, which made planning committees mandatory. Most recently, updated national guidelines have emphasized the need for comprehensive regional metropolitan plans to address the contemporary challenges of large-scale urbanization and sustainable regional growth.

105. (C) Route planning for inter-continental maritime shipping
Metropolitan transport planning focuses on regional and city-level mobility. This includes integrating local metro systems with suburban rail, aligning regional bypasses, and locating inter-state bus terminals. These elements ensure seamless movement within the agglomeration. International maritime shipping routes involve global trade and national-level logistics, which are entirely outside the scope of planning for the internal transportation network of a specific metropolitan urban region.

106. (C) Statement I is false but Statement II is true.
A regional metropolitan plan must look beyond the core city to include the rapidly growing fringe areas. Its primary function is to prepare a draft development plan that coordinates infrastructure and land use across the entire metropolitan region. By addressing the needs of both the center and the periphery, the plan ensures balanced growth and manages the functional interdependencies within the whole urban area.

107. (A) Promote mixed-use Transit-Oriented Development nodes around stations.
To maximize the efficiency of a massive transit network, regional plans should promote mixed-use development around transit nodes. Concentrating residential and commercial activities near stations encourages public transport ridership and creates compact urban hubs. This strategy helps manage urban sprawl by

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focusing growth in areas with the best mobility, creating vibrant and accessible communities while reducing the overall dependency on private vehicular travel.

108. (C) Governance vacuum where urban growth outpaces rural panchayat capacity.
Peri-urban areas often face a governance vacuum because rapid urban development occurs in areas still under the jurisdiction of rural panchayats. These local bodies often lack the technical and financial capacity to manage urban-scale infrastructure and land use. This mismatch results in haphazard growth and poor service delivery, making it a core challenge for metropolitan planners who must find ways to bridge the gap between rural and urban administration.

109. (C) 10 Lakhs (1,000,000)
The Indian constitution defines a metropolitan area as having a population of ten lakhs or more, typically spanning multiple jurisdictions. This threshold recognizes that cities of this size face complex regional challenges that require coordinated planning beyond individual municipal boundaries. Once an area reaches this population, it becomes eligible for the constitution of a Metropolitan Planning Committee to prepare integrated development strategies for the region.

110. (C) A is true but R is false.
Census outgrowths are considered part of an urban agglomeration because they represent the continuous physical spread of a town. These areas, like railway colonies or industrial estates, have clear urban characteristics. However, outgrowths are not independent statutory municipalities with their own elected mayors. Instead, they remain under the administration of neighboring local bodies or lack formal municipal status while functionally being part of the larger urban area.

111. (B) Bhopal and Indore
To comply with the 74th constitutional amendment, Madhya Pradesh established metropolitan planning committees for its two largest urban centers, Bhopal and Indore. These committees are intended to coordinate planning for the core cities and their surrounding metropolitan areas. This framework allows for the preparation of integrated regional plans that address the common infrastructure, transport, and environmental challenges faced by these rapidly growing urban agglomerations.

112. (A) P-3, Q-2, R-4, S-1
Census classifications distinguish urban areas based on their governance and demographic traits. Statutory towns have formal civic bodies, while census towns meet population and workforce criteria without a formal municipality. An urban agglomeration represents the continuous physical spread of a core city and its outgrowths. Outgrowths are urban-like areas adjacent to statutory towns that lack their own independent local government, completing the spatial definition of urbanization.

113. (A) Identifying zones of influence marked by commuting and supply chains.
Functional delineation identifies metropolitan regions based on actual social and economic interactions rather than just political boundaries. It focuses on identifying zones of influence where people live, work, and trade, marked by commuter flows and complex supply chains. This approach ensures that planning boundaries reflect the real-world operation of the urban system, allowing for more accurate and effective regional infrastructure and economic strategies.

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114. (B) 1, 2, and 4 only
Metropolitan planning committees are designed to be democratic and integrated bodies. Most of their members are elected from local municipalities and panchayats to ensure local representation. These committees focus on coordinating environmental plans and ensuring that investments by state and central agencies are spatially aligned. Crucially, they do not dissolve local municipal bodies; instead, they act as a coordinating layer to harmonize plans across multiple jurisdictions.

115. (A) Implement an Urban Growth Boundary with phased infrastructure plans.
Implementing an urban growth boundary is an effective strategy to consolidate growth and manage pressure on municipal infrastructure. By defining a clear limit for urban expansion and pairing it with phased infrastructure plans, planners can ensure that new developments occur in an orderly manner. This approach prevents haphazard sprawl into the periphery

and allows the city to extend its services more efficiently and sustainably over time.

116. (D) UMTA - Coordinates multiple transport modes and agencies across the region.
Integrated metropolitan transport planning often involves the creation of a Unified Metropolitan Transport Authority. This agency is responsible for coordinating various modes of transport, such as buses, metro, and suburban rail, across multiple administrative agencies. By synchronizing schedules, fares, and network planning, the authority ensures a seamless and efficient transportation system that serves the entire region, reducing congestion and improving overall regional mobility.

117. (C) Uniform and strictly segregated agricultural land uses throughout the core.
Growing urban agglomerations are characterized by strong economic interdependence between core cities and satellite towns, often managed by fragmented administrative jurisdictions. They experience high volumes of daily commuter traffic. However, they do not have uniform or strictly segregated agricultural land uses in the city core. Instead, core areas are dominated by intensive urban land uses, with agricultural activities typically pushed to the distal peri-urban fringes.

118. (D) Statement I is false but Statement II is true.
District and metropolitan planning committees serve distinct roles and do not simply duplicate powers over the same boundaries. The metropolitan planning committee specifically focuses on large urban regions exceeding one million people. Its primary function is to reconcile and consolidate the various plans from different municipalities and panchayats within that metropolitan area, ensuring a single, cohesive spatial strategy that addresses the complex needs of the entire regional urban complex.

119. (D) MPC provides macro drafts while the Authority acts as the executor.
Resolving jurisdictional clashes in metropolitan planning requires a clear division of roles. According to the spirit of the 74th constitutional amendment, the Metropolitan Planning Committee should provide the macro-level draft development plans, representing the elected voice of the region. The state-level development authority then acts as the specialized technical agency that executes these plans and manages the day-to-day implementation of large-scale infrastructure and urban housing projects.

120. (A) Balanced, sustainable development across fragmented local boundaries.
The ultimate goal of regional metropolitan planning is to achieve balanced and sustainable development across the diverse local jurisdictions that make up an urban agglomeration. By coordinating infrastructure, land use, and environmental protection at a regional scale, planners can overcome the limitations of fragmented local boundaries. This integrated approach ensures that the entire region grows in a way that is economically efficient, socially equitable, and environmentally responsible.

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CHAPTER 05

Regional and Environmental Planning Context

1. Which of the following best defines a "development region" in the context of regional planning in Madhya Pradesh?
(A) An administrative zone created for the collection of regional taxes and state revenues
(B) A geographic area with homogeneous characteristics planned for balanced growth
(C) An international trade corridor designated for specialized foreign investment zones
(D) A strictly urbanized area excluding all peripheral rural settlements and farm land

2. Read the following statements regarding administrative divisions in Madhya Pradesh:
Statement I: The state is divided into administrative divisions, which are further subdivided into districts, tehsils, and blocks for governance and planning.
Statement II: Regional planning authorities in Madhya Pradesh operate entirely independently of district administrative boundaries to ensure purely natural demarcations.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

3. Match the following Industrial Nodes/Corridors in Madhya Pradesh (List I) with their primary associated characteristics (List II):
List I: Industrial Nodes/Corridors
P. Pithampur-Dhar-Mhow
Q. Shajapur-Dewas
R. Neemuch-Nayagaon
S. Delhi-Mumbai Industrial Corridor (DMIC)
List II: Primary Characteristics
1. Investment region within the western influence zone
2. Industrial area designated as a manufacturing hub
3. Trans-national infrastructure project passing through western MP
4. Investment node for agro-processing and engineering
(A) P-2, Q-4, R-1, S-3
(B) P-3, Q-1, R-4, S-2
(C) P-4, Q-2, R-3, S-1
(D) P-1, Q-3, R-2, S-4

4. Identify the incorrect pair regarding the administrative divisions and their constituent districts in Madhya Pradesh:
(A) Ujjain Division – Dewas, Ratlam, Mandsaur
(B) Jabalpur Division – Katni, Mandla, Chhindwara
(C) Gwalior Division – Morena, Bhind, Sheopur
(D) Sagar Division – Damoh, Panna, Chhatarpur

5. Arrange the following legislative and policy milestones relevant to regional and urban planning in Madhya Pradesh in chronological order of their enactment or launch:
1. Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam
2. Provisions of the Panchayats (Extension to the Scheduled Areas) Act (PESA)
3. Enactment of the Madhya Pradesh Municipal Corporation Act
4. Implementation of the Real Estate (Regulation and Development) Act (RERA)
(A) 3, 1, 2, 4
(B) 1, 3, 2, 4
(C) 3, 2, 1, 4
(D) 1, 2, 3, 4

6. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): The Delhi-Mumbai Industrial Corridor (DMIC) provides a significant economic catalyst for the Central India regional

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development context.
Reason (R): The DMIC aligns through the central tribal belts of eastern Madhya Pradesh, facilitating direct export of unrefined forest produce.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

7. Which of the following is an incorrect statement regarding the Madhya Pradesh Urban Development and Housing Policy?
(A) It emphasizes the provision of affordable housing for Economically Weaker Sections (EWS) and Low-Income Groups (LIG).
(B) It mandates that all new residential townships must exclusively consist of high-density high-rise developments.
(C) It promotes private sector participation in urban infrastructure and housing development.
(D) It integrates sustainability principles, including rainwater harvesting and energy-efficient building norms.

8. Read the following statements regarding the impact of RERA on urban development in Madhya Pradesh:
1. It mandates the registration of all real estate projects exceeding 500 square meters or eight apartments.
2. It eliminates the role of the Town and Country Planning (TCP) Department in layout approvals.
3. It requires promoters to deposit 70% of project funds into a dedicated escrow account.
4. It provides a standardized framework for the sale of properties to protect consumer interests.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

9. In the context of regional planning in Madhya Pradesh, which specific mechanism under the MP Nagar Tatha Gram Nivesh Adhiniyam is primarily utilized to control haphazard development in the peripheral areas of rapidly growing cities like Indore and Bhopal?
(A) Constitution of a Special Economic Zone (SEZ)
(B) Immediate amalgamation of peripheral villages into the Municipal Corporation
(C) Implementation of the Backward Regions Grant Fund (BRGF)
(D) Declaration of a Planning Area and preparation of a Development Plan

10. Identify the correct pair regarding regional planning bodies in Madhya Pradesh:
(A) Town and Country Planning (TCP) Department – Prepares regional and development plans
(B) MP Housing and Infrastructure Development Board – Solely responsible for issuing environmental clearances
(C) MP Urban Development Company (MPUDC) – Exclusively manages rural water supply schemes
(D) Real Estate Regulatory Authority (RERA) – Formulates the State Industrial Policy

11. All of the following are primary objectives of delineating development regions in Madhya Pradesh, EXCEPT:
(A) Reducing intra-regional and inter-regional economic disparities
(B) Centralizing all industrial investments exclusively in the state capital
(C) Optimizing the utilization of localized natural and human resources
(D) Formulating context-specific strategies for backward and tribal areas

12. When delimiting a functional region for a new industrial corridor in Central India, a regional planner would most appropriately rely on which of the following analytical concepts?
(A) The strict historical administrative boundaries of the 19th century
(B) The flow of goods, commuter patterns, and supply chain linkages
(C) The uniform distribution of homogeneous linguistic groups

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(D) The equal distribution of topography and climatic zones

13. In the context of regional planning in Madhya Pradesh, how is a "Scheduled Area" generally defined under the Fifth Schedule?
(A) An area with a preponderance of tribal population and economic backwardness
(B) An area reserved for the establishment of large-scale state-owned industries
(C) An area categorized as a high-density urban zone with metropolitan governance
(D) An area exempt from all standard environmental and forest conservation laws

14. Read the following statements regarding the PESA Act 1996:
Statement I: PESA extends the provisions of Part IX of the Constitution relating to Panchayats to the Scheduled Areas with certain modifications.
Statement II: PESA diminishes the power of the Gram Sabha, transferring absolute decision-making authority over natural resources to the State Government.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

15. Match the following Integrated Tribal Development Project (ITDP) focus areas (List I) with their corresponding developmental objectives (List II):
List I: ITDP Focus Areas
P. Infrastructure Development
Q. Livelihood Enhancement
R. Capacity Building
S. Health and Sanitation
List II: Developmental Objectives
1. Construction of all-weather rural roads and bridges
2. Provision of clean drinking water and mobile clinics
3. Promotion of non-timber forest produce (NTFP) value addition
4. Training local youth in vocational and entrepreneurial skills
(A) P-1, Q-3, R-4, S-2
(B) P-2, Q-1, R-3, S-4
(C) P-3, Q-4, R-2, S-1
(D) P-1, Q-4, R-3, S-2

16. Identify the incorrect pair regarding tribal demography and geography in Madhya Pradesh:
(A) Bhil Tribe – Primarily located in Jhabua and Alirajpur districts
(B) Gond Tribe – Primarily located in Mandla and Dindori districts
(C) Baiga Tribe – Exclusively concentrated in the Malwa plateau region
(D) Sahariya Tribe – Primarily located in Gwalior and Chambal divisions

17. While preparing a regional plan for a Schedule V district in Madhya Pradesh, a town planner must legally ensure the integration of which specific institutional body for land acquisition consultations?
(A) The State Real Estate Regulatory Authority
(B) The local Gram Sabha
(C) The National Green Tribunal
(D) The Municipal Corporation Council

18. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): Integrated Tribal Development Projects (ITDP) emphasize closing the critical infrastructure deficit in tribal hinterlands.
Reason (R): Tribal regions often suffer from sparse settlement patterns and difficult terrain, making standard per-capita infrastructure models financially unviable.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

19. Which of the following is an incorrect statement regarding Panchayat Raj and tribal self-governance in planning?
(A) Frameworks that strictly prohibit all state infrastructure projects
(B) The 73rd Amendment which provides the constitutional basis for rural planning
(C) The Gram Sabha's right to mandatory consultation regarding any land acquisition
(D) Local institutions empowered to manage all minor forest produce in tribal areas

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20. Read the following statements regarding the Backward Regions Grant Fund (BRGF):
1. It was designed to redress regional imbalances in development.
2. It provided financial resources for supplementing existing developmental inflows.
3. It bypassed local Panchayats and municipalities, channeling funds exclusively through private NGOs.
4. It aimed to bridge critical gaps in local infrastructure and other development requirements.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

21. In addressing livelihood-based planning for the backward tribal region of Alirajpur in Madhya Pradesh, which intervention is most contextually appropriate?
(A) Establishing a high-tech regional software development and IT park
(B) Developing large-scale chemical fertilizer and pesticide manufacturing plants
(C) Promoting minor forest produce and indigenous poultry farming projects
(D) Constructing multi-story luxury real estate complexes for urban residents

22. Identify the correct pair regarding planning frameworks for backward regions:
(A) PESA Act 1996 – Focuses strictly on urban metropolitan zone governance
(B) Fifth Schedule – Administration of Scheduled Areas and Tribes
(C) GPDP – Prepared by the central government without any local community input
(D) RURBAN Mission – Aims to depopulate rural areas to stimulate urban migration

23. All of the following are common planning challenges inherent to tribal hinterlands in Madhya Pradesh, EXCEPT:
(A) Severe physical isolation and poor all-weather road connectivity
(B) Dispersed and fragmented hamlet-level settlement patterns
(C) Vulnerability to alienation of tribal land
(D) High density of super-specialty private medical hospitals

24. To overcome the infrastructure deficit in a highly dispersed rural tribal region, a planner applying the concept of "spatial hierarchy" would most likely propose:
(A) Clustering basic services in a central nodal village for the region
(B) Replicating high-speed metro-rail systems across all local village units
(C) Providing large-scale tertiary hospitals to every single residential hamlet
(D) Eliminating all infrastructure spending until populations relocate to cities

25. The concept of the "rural-urban continuum" in regional planning essentially denotes:
(A) A strict, impenetrable boundary separating city administrative limits from village lands
(B) The legal process of instantly converting agricultural land to commercial use
(C) A gradual transition in which rural and urban characteristics mix, with no sharp dividing line
(D) The absolute decline of agricultural activities within a 100-kilometer radius of a city

26. Read the following statements regarding rural settlement patterns:
Statement I: A hamlet is typically a small, dispersed satellite settlement linked functionally and administratively to a larger main village.
Statement II: Market towns sit at the bottom of the rural settlement hierarchy and primarily serve only the agricultural households within their immediate boundary.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

27. Match the rural-urban hierarchy components (List I) with their typical functional characteristics (List II):
List I: Hierarchy Components
P. Hamlet
Q. Village
R. Market Town (Mandi)

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S. Peri-urban area

List II: Functional Characteristics

1. Agrarian-dominated settlement functioning as the primary unit of rural administration
2. Zone of rapid land-use transition located on the fringes of a city
3. Smallest cluster of rural housing, often lacking higher-order civic amenities
4. Hub for agricultural trade, secondary processing, and higher-order rural services

(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-4, R-1, S-2

28. Identify the incorrect pair regarding rural infrastructure and related schemes in India:
(A) PMGSY – Rural road connectivity
(B) Jal Jeevan Mission – Piped drinking water supply to rural households
(C) Swachh Bharat Mission (Grameen) – Rural sanitation and ODF sustainability
(D) AMRUT – Promotion of agro-processing zones in deeply forested rural hinterlands

29. Arrange the following stages of preparing a Gram Panchayat Development Plan (GPDP) in the correct chronological order:
1. Approval of the draft plan by the Gram Sabha
2. Environment building and community mobilization
3. Project formulation and resource allocation
4. Situation analysis and participatory rural appraisal

(A) 2, 4, 3, 1
(B) 4, 2, 1, 3
(C) 2, 3, 4, 1
(D) 1, 4, 2, 3

30. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): The Shyama Prasad Mukherji Rurban Mission (SPMRM) aims to develop a cluster of smart villages.
Reason (R): Stimulating local economic development, enhancing basic services, and creating well-planned Rurban clusters helps reduce distress migration from rural to urban areas.
Which of the following is correct?

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(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

31. Which of the following is an incorrect statement regarding agro-processing zones and the rural non-farm economy?
(A) Agro-processing zones help in reducing post-harvest agricultural losses.
(B) The rural non-farm economy strictly includes only traditional subsistence farming activities.
(C) Establishing these zones close to rural hinterlands generates alternative employment opportunities.
(D) They act as a critical bridge linking primary agricultural production to urban consumer markets.

32. Read the following statements regarding planning for the urban fringe and peri-urban areas:
1. Peri-urban areas typically experience speculative land market activities.
2. They are characterized by a well-regulated and uniformly strictly enforced zoning system.
3. They often suffer from infrastructural deficits due to jurisdictional overlaps between rural and urban local bodies.
4. They represent zones of transition where agricultural land is actively converted to non-agricultural uses.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

33. In the context of Madhya Pradesh, which criteria is primarily used under the RURBAN mission to select Gram Panchayats for cluster development?
(A) The complete absence of agricultural land within the cluster
(B) Population growth rates and non-farm economic activities
(C) Geographic location exclusively above 2000

meters altitude
(D) Tribal population exceeding 95% in every constituent village

34. Identify the correct pair regarding rural and regional planning concepts:
(A) Ribbon Development – Uniform circular expansion of a rural settlement area
(B) GPDP – A centralized top-down planning mandate issued by the state capital
(C) Hinterland – The heavily industrialized core of a metropolitan city's center
(D) Rural Non-farm Economy – Income activities excluding primary agriculture

35. All of the following are typical spatial or socioeconomic characteristics of the peri-urban fringe, EXCEPT:
(A) Absolute stagnation of land prices
(B) High incidence of unauthorized or plotted housing colonies
(C) Mixed land uses juxtaposing agriculture with industrial or residential functions
(D) Environmental degradation due to inadequate solid waste and wastewater management

36. As an Assistant Town Planner managing a rapidly expanding urban fringe in Madhya Pradesh, the most effective zoning tool to prevent the premature conversion of prime agricultural land is:
(A) Abolishing all existing building bylaws and land use regulations
(B) Establishing a green belt or agricultural zone in the master plan
(C) Implementing an exclusive commercial zoning overlay for all areas
(D) Mandating 10-story residential towers in all peripheral fringe villages

37. What is the fundamental rationale for adopting a "river basin" as a regional planning unit?
(A) It aligns with administrative borders to facilitate efficient tax collection
(B) It ensures industrial development is placed exclusively in downstream zones
(C) It is a political construct used for distributing electoral constituencies
(D) It is a natural system allowing for integrated resource management

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38. Read the following statements regarding major river basins in Madhya Pradesh:
Statement I: The Narmada River basin is a west-flowing system characterized by a rift valley topography.
Statement II: The Chambal River flows southwards and directly discharges into the Arabian Sea.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

39. Match the major river basins of Madhya Pradesh (List I) with their associated geographical/ hydrological characteristics (List II):
List I: River Basins
P. Narmada
Q. Chambal
R. Tapti
S. Betwa
List II: Characteristics
1. Flows parallel to the Narmada in a rift valley, originating near Multai
2. Known for extensive ravine formations and badland topography
3. A major tributary of the Yamuna, originating in the Vindhya range near Raisen
4. The longest river of MP, originating from Amarkantak
(A) P-4, Q-2, R-1, S-3
(B) P-4, Q-3, R-1, S-2
(C) P-1, Q-2, R-4, S-3
(D) P-2, Q-4, R-3, S-1

40. Identify the incorrect pair regarding watershed development components:
(A) Afforestation – Clear-cutting native trees for commercial agriculture
(B) Check Dams – Small barriers built across water flow to harvest rain
(C) Gully Plugging – Structural measures used to prevent deepening of gullies
(D) Contour Bunding – Small earthen banks across slopes to check soil erosion

41. When delineating flood plain zones for a river flowing through an urban area, a planner must primarily rely on which set of technical analyses?

(A) Traffic volume counts and pedestrian footfall data collection
(B) Hydrological analysis and historical flood level data points
(C) Demographic census data regarding localized linguistic groups
(D) Real estate market valuation and property tax rate assessments

42. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): The Narmada Valley Development Authority (NVDA) was established to oversee the integrated planning and execution of water resources projects in the Narmada basin.
Reason (R): Integrated basin planning requires a unified authority to manage multi-purpose dams, irrigation networks, and environmental rehabilitation across administrative districts.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

43. Which of the following is an incorrect statement regarding interstate river water disputes and their planning implications?
(A) The Inter-State River Water Disputes Act 1956 provides a legal mechanism to adjudicate disputes.
(B) Interstate disputes often delay the implementation of multi-purpose regional dam projects.
(C) Adjudication awards strictly dictate the volumetric share of water allocation for riparian states.
(D) Madhya Pradesh shares the Narmada basin waters exclusively with the state of Chhattisgarh.

44. Read the following statements regarding the Integrated Watershed Management Programme (IWMP):
1. It aims to restore ecological balance by harnessing, conserving, and developing degraded natural resources.
2. It completely bans the practice of agriculture within the designated watershed areas.
3. It promotes livelihood generation for asset-less poor through micro-enterprises.
4. It involves the active participation of local communities in planning and execution.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

45. In the context of urban riverfront planning in Madhya Pradesh, the rejuvenation efforts for the Kahn and Saraswati rivers are primarily associated with which city?
(A) Gwalior
(B) Indore
(C) Jabalpur
(D) Rewa

46. Identify the correct pair regarding river basin planning terminology:
(A) Blue-Green Infrastructure – Installation of high-capacity concrete drainage pipes
(B) Riparian Zone – The heavily commercialized central business district of a city
(C) Flood Plain Zoning – Distributing political power among river basin authorities
(D) Catchment Area – The land area from which surface run-off flows to a river

47. All of the following are recognized structural or vegetative measures implemented under watershed management, EXCEPT:
(A) Percolation tanks
(B) Hazardous waste injection
(C) Contour trenching
(D) Gabion structures

48. When citing a location for a check dam in a regional watershed plan, which site condition is considered the most technically appropriate?
(A) A highly permeable sandy riverbed with no defined physical banks
(B) At the exact peak of a localized hillock to ensure high visibility
(C) Inside a heavily built-up residential neighborhood to enhance aesthetics
(D) A narrow stream section with stable banks and a sloped upstream area

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49. Under the Ramsar Convention, how is a "wetland" broadly defined?
(A) Only those deep ocean habitats that exceed a depth of 50 meters below sea level
(B) Areas of marsh, fen, peatland, or water, whether natural or artificial in origin
(C) Exclusively man-made swimming pools and specialized industrial cooling ponds
(D) Land areas completely devoid of moisture for at least 11 months of the year

50. Read the following statements regarding the Wetlands (Conservation and Management) Rules 2017:
Statement I: The rules decentralized wetland management by establishing State Wetland Authorities.
Statement II: The rules explicitly permit the setting up of new highly polluting industries within the notified wetland boundaries.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

51. Match the designated Ramsar Sites in Madhya Pradesh (List I) with their corresponding districts/locations (List II):
List I: Ramsar Sites
P. Bhoj Wetland
Q. Sakhya Sagar
R. Sirpur Wetland
S. Yashwant Sagar
List II: Districts/Locations
1. Shivpuri
2. Indore
3. Bhopal
4. Indore (Mhow region proximity)
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

52. Identify the incorrect pair regarding lake conservation frameworks and terminology:
(A) Ecosystem Services – The construction of commercial water parks on lakebeds
(B) National Lake Conservation Plan – NLCP
(C) Buffer Zone – A strictly regulated area surrounding a wetland to mitigate external impacts
(D) Eutrophication – Nutrient over-enrichment causing excessive algal growth

53. Arrange the following policy and international milestones related to wetland conservation in correct chronological order:
1. Notification of the Wetlands (Conservation and Management) Rules in India
2. Launch of the National Lake Conservation Plan (NLCP) by MoEFCC
3. Adoption of the Ramsar Convention internationally
4. Designation of Sakhya Sagar, Sirpur, and Yashwant Sagar as Ramsar sites
(A) 3, 2, 1, 4
(B) 2, 3, 1, 4
(C) 3, 1, 2, 4
(D) 1, 2, 4, 3

54. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): Buffer zone planning is a mandatory spatial intervention around urban wetlands like the Bhoj Wetland in Bhopal.
Reason (R): Buffer zones physically isolate the water body from point-source pollution, arrest soil erosion, and prevent direct structural encroachment.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

55. Which of the following is an incorrect statement regarding the management of Bhopal's Upper and Lower Lakes (Bhoj Wetland)?
(A) The Upper Lake was created in the 11th century by constructing an earthen dam across the Kolans River.
(B) Catchment area treatment is a major component of its ecological management strategy.
(C) The Lower Lake faces significant pressure from surrounding dense urban settlements.
(D) The Bhoj Wetland is completely insulated from urban sewage due to its high altitude.

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56. Read the following statements regarding the threats to urban wetlands and lakes:
1. Untreated domestic sewage discharge leads to rapid eutrophication and depletion of dissolved oxygen.
2. Catchment area paving increases surface runoff but drastically reduces groundwater recharge.
3. Solid waste dumping physically alters the littoral zone habitats.
4. Strict enforcement of flood plain zoning accelerates wetland encroachment.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 1, 2, and 3
(D) 2, 3, and 4

57. In evaluating the ecological health of the Bhoj Wetland, which intervention is primarily directed at managing non-point source pollution from its rural catchment?
(A) Banning all motorized boats on the lake surface to reduce oily residues
(B) Promoting organic farming and restricting fertilizers in the catchment
(C) Constructing high concrete walls around the lake to prevent human access
(D) Dredging the lakebed annually to remove sediment and biological wastes

58. Identify the correct pair regarding wetland classifications or components:
(A) Inland Wetlands – Coastal mangroves and coral reef systems
(B) Littoral Zone – The deepest, lightless part of a lake system
(C) Ramsar Site – A wetland of international importance designated
(D) Benthic Zone – The forest area 10 miles away from the water

59. All of the following activities are strictly prohibited within a notified wetland and its zone of influence under the Wetlands Rules 2017, EXCEPT:
(A) Conversion for non-wetland uses including encroachment of any kind
(B) Setting up of any new industry and expansion of existing industries
(C) Discharge of untreated wastes and effluents from industries and human settlements
(D) Traditional sustainable fishing practices by local communities

60. As a town planner addressing the degradation of an urban lake, the application of "Blue-Green Infrastructure" principles would most likely result in the design of:
(A) Constructed wetlands, bio-swales, and pavements in the catchment area
(B) A network of concrete storm drains discharging directly into the lake center
(C) Covering the lake surface with solar panels to block all available sunlight
(D) Filling the edges of the lake to build a high-speed peripheral ring road

61. What is the fundamental definition of an "Industrial Corridor" in the context of regional economic planning?
(A) A single, isolated factory built far from any existing urban settlements
(B) A multi-modal transport network linking nodes of regional development
(C) A strictly agricultural zone where no industrial activity is permitted
(D) A continuous stretch of protected forest land bordering two major states

62. Read the following statements regarding the Central India regional development context:
Statement I: Madhya Pradesh's central geographic location makes it a critical logistical and transit hub for national supply chains.
Statement II: The state lacks any significant mineral or forest resources, relying entirely on coastal imports for regional development.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

63. Match the Development Regions of Madhya Pradesh (List I) with their defining regional characteristics (List II):
List I: Development Regions
P. Malwa Plateau Region
Q. Baghelkhand Region
R. Narmada Valley Region
S. Bundelkhand Region

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List II: Regional Characteristics
1. Highly fertile black soil, major agrarian and industrial belt (Indore-Ujjain)
2. Geographically rugged, historically drought-prone, requires special package planning
3. Linear rift valley, intense irrigation and agricultural productivity
4. Rich in coal and minerals, predominantly tribal and forested

(A) P-1, Q-4, R-3, S-2
(B) P-2, Q-3, R-1, S-4
(C) P-1, Q-2, R-4, S-3
(D) P-3, Q-4, R-2, S-1

64. Identify the incorrect pair regarding urban and regional development authorities in Madhya Pradesh and their operational bases:
(A) Bhopal Development Authority (BDA) – Operates within Bhopal
(B) Indore Development Authority (IDA) – Operates within Indore
(C) NVDA – Formulates Master Plans for the city of Gwalior
(D) SADA – Planning for areas like Pachmarhi or Pithampur

65. To effectively align a regional plan with the MP Urban Development and Housing Policy's focus on inclusive growth, a planner must primarily incorporate:
(A) Mandates for constructing only ultra-luxury villas in peri-urban zones
(B) Immediate eviction of all informal settlements without any rehabilitation
(C) Privatization of all public open spaces to maximize state tax revenue
(D) Reserving a percentage of developed land for EWS and LIG housing

66. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): The implementation of RERA in Madhya Pradesh has improved the orderly development of peri-urban real estate.
Reason (R): RERA mandates strict adherence to approved layout plans and penalizes the diversion of project funds, thereby curbing unauthorized plotted developments.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

67. Which of the following is an incorrect statement regarding the influence of the Delhi-Mumbai Industrial Corridor (DMIC) in Madhya Pradesh?
(A) It spans several districts in western MP, including Dhar and Ratlam
(B) The DMIC is entirely funded and managed by local Gram Panchayats
(C) Pithampur-Dhar-Mhow is identified as a major regional investment node
(D) It aims to develop self-sustaining smart industrial cities in the state

68. Read the following statements regarding tribal planning frameworks in Madhya Pradesh:
1. Integrated Tribal Development Projects (ITDP) operate on a macro, meso, and micro-level planning approach.
2. The Tribal Sub-Plan (TSP) channels a proportional share of plan funds specifically for tribal welfare.
3. Micro-plans for tribal villages focus exclusively on creating heavy industrial zones.
4. Planning frameworks must respect customary laws and community ownership of resources.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

69. In the context of MP's industrial geography, the Pithampur node is heavily characterized by which type of specific industrial cluster?
(A) Marine food and coastal seafood processing industries
(B) Heavy ship-building and oceanic transport maintenance
(C) High-altitude tea processing and plantation management
(D) Automobile and auto-components manufacturing clusters

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9. (D) Declaration of a Planning Area and preparation of a Development Plan
To manage rapid expansion in major cities, authorities declare specific planning areas under legislative acts. This mechanism allows for the preparation of comprehensive development plans that guide land use and infrastructure. By establishing these regulatory frameworks, the state can prevent haphazard growth in peripheral zones and ensure that urban expansion is orderly, sustainable, and properly serviced.

10. (A) Town and Country Planning (TCP) Department – Prepares regional and development plans
The Town and Country Planning Department is the primary body responsible for formulating spatial strategies and development plans. Other organizations have distinct roles, such as the Housing Board focusing on construction and the Urban Development Company managing infrastructure projects. Correct identification of these agencies is crucial for understanding the institutional framework that governs urban and regional planning.

11. (B) Centralizing all industrial investments exclusively in the state capital
Delineating development regions aims to promote balanced growth and reduce economic disparities across different parts of the state. The process focuses on optimizing local resources and formulating strategies for backward areas rather than concentrating all investments in a single city. This approach ensures that development benefits are distributed more equitably, supporting the unique needs of diverse geographical zones.

12. (B) The flow of goods, commuter patterns, and supply chain linkages
Functional regions are defined by the connections and movements between different locations rather than fixed administrative or physical boundaries. Planners analyze economic interactions, such as supply chains and commuting habits, to determine the extent of these regions. This data-driven approach is essential for creating effective industrial corridors that leverage existing economic links and promote integrated regional development.

13. (A) An area with a preponderance of tribal population and economic backwardness
Scheduled Areas are designated based on the significant presence of tribal communities and their relative economic and social challenges. This classification allows for special administrative arrangements and protections to safeguard tribal interests. Under the constitutional framework, these areas receive targeted planning and resource allocation to address their specific developmental needs while preserving their unique cultural and social identities.

14. (C) Statement I is true, but Statement II is false
The PESA Act extends panchayat provisions to tribal regions while introducing modifications to respect local traditions. Crucially, the act empowers the Gram Sabha rather than diminishing its role. It grants local communities significant authority over natural resources and decision-making processes. This decentralized approach ensures that planning in scheduled areas is participatory and respects the rights of tribal inhabitants.

15. (A) P-1, Q-3, R-4, S-2
Integrated Tribal Development Projects focus on various aspects of community welfare through targeted objectives. Infrastructure development involves building rural roads, while livelihood enhancement focuses on forest produce value addition. Capacity building provides vocational training to local youth, and health initiatives ensure access to clean water and clinics. These components work together to improve the overall quality of life.

16. (C) Baiga Tribe – Exclusively concentrated in the Malwa plateau region
Different tribal groups are associated with specific geographic regions within the state. The Baiga tribe is primarily found in the eastern districts like Mandla and Dindori, not the western Malwa plateau. Understanding these demographic distributions is vital for regional planners to design culturally appropriate and spatially relevant development programs that address the unique needs of each tribal community.

17. (B) The local Gram Sabha
In Schedule V districts, the law mandates that the Gram Sabha must be consulted before any

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2. Balwant Rai Mehta Committee
3. PESA Act
4. Ashok Mehta Committee

(A) 2, 4, 1, 3
(B) 4, 2, 1, 3
(C) 2, 1, 4, 3
(D) 1, 2, 3, 4

78. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): Preparing a Gram Panchayat Development Plan (GPDP) strictly requires spatial and financial convergence of various schemes like MGNREGA, PMGSY, and SBM.
Reason (R): Gram Panchayats possess unlimited internal revenue generation capabilities and do not rely on centrally or state-sponsored schemes.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

79. Which of the following is an incorrect statement regarding livelihood-based planning in backward regions?
(A) It assumes that automated heavy industries are the only solution
(B) It requires mapping the existing skill sets and natural resource base
(C) It emphasizes value addition to agricultural and non-timber forest produce
(D) Micro-credit and self-help group linkages are critical components

80. Read the following statements regarding the Backward Regions Grant Fund (BRGF):
1. It aims to catalyze development in backward districts by providing untied funds.
2. It requires the preparation of participatory district development plans by District Planning Committees (DPCs).
3. It strictly prohibits the use of funds for health and education infrastructure.
4. Capacity building of local body functionaries is a key component of the program.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

81. When designing a village settlement plan for the Particularly Vulnerable Tribal Groups (PVTGs) such as the Baigas in Dindori district, what is a critical contextual consideration?
(A) Forcing resettlement into high-rise apartment blocks in urban zones
(B) Respecting traditional dispersed homestead patterns and shifting history
(C) Mandating a uniform grid-iron street pattern identical to Chandigarh
(D) Ignoring traditional construction materials in favor of glass and steel

82. Identify the correct pair concerning rural self-governance entities:
(A) Zila Panchayat – Operates strictly at the local village level
(B) Janpad Panchayat – The apex body at the state capital level
(C) District Planning Committee – Excludes all elected rural members
(D) Gram Sabha – Consists of all registered voters within the Panchayat

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83. Under the provisions of the PESA Act 1996, all of the following powers are typically endowed upon the Gram Sabha or Panchayats at the appropriate level, EXCEPT:
(A) The power to enforce prohibition or to regulate the sale and consumption of any intoxicant
(B) The power to declare war or negotiate international treaties
(C) The power to manage village markets
(D) The power to exercise control over institutions and functionaries in all social sectors

84. In allocating resources for overcoming infrastructure deficits in a backward tribal region, a planner using the "growth center" approach would:
(A) Distribute funds equally to every single person regardless of location
(B) Invest solely in the largest metropolitan city outside the region
(C) Concentrate strategic investments in nodes with high growth potential

strictly enforced no-construction zones
2. Interception and diversion of untreated sewage inputs
3. Restoring native aquatic vegetation and banning disruptive fishing gears
4. Afforestation and soil conservation measures in the upstream area

(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-4, R-1, S-3

100. Identify the incorrect pair regarding wetland classification based on the Ramsar framework:
(A) Marine/Coastal Wetlands – Coral reefs, mangrove swamps
(B) Subterranean Wetlands – Floating clouds and atmospheric vapor
(C) Inland Wetlands – Marshes, lakes, peatlands
(D) Human-made Wetlands – Reservoirs, aquaculture ponds, salt pans

101. Arrange the procedural steps for delineating and regulating flood plain zones in the correct chronological sequence:
1. Detailed topographical survey and generation of contour maps
2. Identification and notification of prohibitive and restrictive zones
3. Hydrological analysis including flood frequency and inundation modeling
4. Demarcation of physical flood lines (e.g., 25-year and 100-year flood levels) on the ground

(A) 1, 3, 4, 2
(B) 3, 1, 2, 4
(C) 1, 4, 3, 2
(D) 4, 3, 1, 2

102. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): Comprehensive catchment area treatment is essential for the long-term survival of the Bhoj Wetland.
Reason (R): Degradation in the catchment area accelerates soil erosion, leading to rapid siltation and reduction in the water storage capacity of the lake.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

103. Which of the following is an incorrect statement regarding Sakhya Sagar in Madhya Pradesh?
(A) It is designated as a Ramsar Wetland of International Importance.
(B) It is situated adjacent to the Madhav National Park in Shivpuri.
(C) It provides a critical habitat for marsh crocodiles (Muggers).
(D) It was created naturally by a tectonic shift in the 21st century.

104. Read the following statements regarding the National Lake Conservation Plan (NLCP) guidelines:
1. It focuses on the in-situ bioremediation of lakes.
2. It mandates the diversion and treatment of sewage entering the lake.
3. It supports catchment area treatment including afforestation.
4. It encourages the complete concrete paving of lake bottoms to prevent groundwater loss.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, 3, and 4

105. In addressing the environmental degradation of the Lower Lake in Bhopal, which of the following anthropogenic pressures is most critical for a town planner to mitigate?
(A) Regulating the overpopulation of migratory Siberian cranes and storks
(B) Stopping local villagers from manually collecting lotus stems and seeds
(C) Mitigating the influx of untreated sewage and waste from adjacent wards
(D) Preventing natural evaporation of surface water during the summer months

106. Identify the correct pair regarding ecosystem services provided by wetlands:
(A) Provisioning Services – Supply of fresh water, fish, and fuel
(B) Regulating Services – Tourism and spiritual

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92. Read the following statements regarding the Narmada Valley Development Authority (NVDA):
1. It is responsible for executing large multi-purpose dams like the Indira Sagar and Sardar Sarovar projects.
2. Its planning mandate includes the rehabilitation and resettlement (R&R) of project-affected families.
3. It entirely delegates the environmental clearance processes to local Gram Panchayats.
4. It manages the command area development to ensure efficient irrigation water distribution.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) (2, 3, and 4
(C) (1, 3, and 4
(D) (1, 2, 3, and 4

93. The Ken-Betwa river interlinking project, significantly impacting river basin planning in Madhya Pradesh, primarily aims to transfer water to which drought-prone region?
(A) Malwa
(B) Bundelkhand
(C) Baghelkhand
(D) Nimar

94. Identify the correct pair regarding interstate river water disputes and tribunals relevant to Madhya Pradesh:
(A) Cauvery Tribunal – Adjudicated water shares between MP and UP
(B) Mahanadi Tribunal – Settled the Chambal flow between MP and Rajasthan
(C) Narmada Tribunal – Apportioned waters between MP, Gujarat, and Rajasthan
(D) Ravi and Beas Tribunal – Deals specifically with the Son river waters

95. All of the following are inherent challenges observed in the urban fringe of expanding cities like Indore and Bhopal, EXCEPT:
(A) Haphazard and unauthorized land sub-divisions
(B) Speculative land holding causing 'leap-frog' development
(C) Loss of fertile agricultural land and degradation of water
(D) Absolute clarity and lack of administrative jurisdiction overlap

96. To manage urban sprawl in a peri-urban area efficiently, an Assistant Town Planner should ideally propose:
(A) Establishing growth boundaries and transit-oriented development corridors
(B) Allowing uncontrolled ribbon development along all available highways
(C) Banning all public transport networks to discourage physical movement
(D) Abolishing building height restrictions across all peripheral locations

97. In the context of wetland conservation, what are "ecosystem services"?
(A) The fees charged by the municipal corporation for supplying tap water
(B) The direct and indirect contributions of ecosystems to human well-being
(C) The process of draining wetlands to provide land for new IT parks
(D) Commercial services provided by private resorts on the lake banks

98. Read the following statements regarding the buffer zone of a wetland:
Statement I: The buffer zone is a designated transitional area surrounding a wetland intended to absorb external shocks and minimize human impacts.
Statement II: High-density hazardous chemical industries are highly recommended land uses within wetland buffer zones.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

99. Match the following lake/wetland conservation challenges (List I) with their appropriate planning/management responses (List II):
List I: Conservation Challenges
P. Eutrophication
Q. Direct structural encroachment
R. Siltation from catchment
S. Loss of littoral biodiversity
List II: Management Responses
1. Demarcation of wetland boundary and

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70. Identify the correct pair representing the administrative hierarchy in Madhya Pradesh from macro to micro level:
(A) Division → District → Tehsil → Gram Panchayat
(B) Division → Tehsil → District → Gram Panchayat
(C) District → Division → Gram Panchayat → Tehsil
(D) Tehsil → Division → Gram Panchayat → District

71. Under the MP RERA guidelines, real estate projects are exempted from mandatory registration in all of the following scenarios, EXCEPT:
(A) Where the area of land proposed to be developed does not exceed 500 square meters
(B) Where the project is a commercial shopping mall built on 5000 square meters of land
(C) Where the number of apartments proposed to be developed does not exceed eight
(D) Where the project strictly involves renovation or repair which does not involve marketing, advertising, selling or new allotment

72. A Concept Application Regional Plan intended to leverage Central India's logistics potential would mathematically prioritize which of the following spatial networks?
(A) Only local village unpaved roads and basic pedestrian pathways
(B) Multi-modal freight terminals linking railways and national highways
(C) Exclusive reliance on inland waterways on non-navigable streams
(D) Bypassing all major urban centers to focus on deep forest interiors

73. How is an Integrated Tribal Development Project (ITDP) primarily delineated in spatial terms?
(A) By carving out contiguous blocks where the ST population exceeds 50%
(B) By selecting only the highly urbanized wards within a metropolitan city
(C) By randomly selecting villages regardless of their demographic makeup
(D) By designating 100-kilometer strips along existing national borders

74. Read the following statements regarding the Fifth Schedule of the Indian Constitution:
Statement I: It grants special powers to the Governor of the state to direct that any particular Act of Parliament or the State Legislature shall not apply to a Scheduled Area.
Statement II: Madhya Pradesh has no districts or areas declared under the Fifth Schedule.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

75. Match the following Tribal Communities in Madhya Pradesh (List I) with their primarily associated habitat/planning context (List II):
List I: Tribal Communities
P. Bharia
Q. Baiga
R. Sahariya
S. Bhil
List II: Habitat/Planning Context
1. Patalkot valley (Chhindwara district)
2. Baigachak region (Mandla/Dindori)
3. Western MP districts (Jhabua, Alirajpur, Dhar)
4. Northern districts (Gwalior, Shivpuri, Guna)
(A) P-1, Q-2, R-4, S-3
(B) P-2, Q-1, R-3, S-4
(C) P-1, Q-3, R-4, S-2
(D) P-3, Q-4, R-1, S-2

76. Identify the incorrect pair regarding the implications of the PESA Act on rural planning:
(A) Gram Sabha – Competent to safeguard traditions and customs
(B) Land Acquisition – Requires mandatory consultation with Gram Sabha
(C) Minor Forest Produce – Ownership denied to local tribal communities
(D) Minor Water Bodies – Management entrusted to the local Panchayats

77. Arrange the following key committees/ acts representing the evolution of rural decentralization and tribal governance in chronological order:
1. 73rd Constitutional Amendment Act

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enrichment
(C) Cultural Services – Carbon sequestration and flood control
(D) Supporting Services – Concrete manufacturing

107. All of the following are generally permitted activities within the regulated zone of a wetland (subject to state authority guidelines), EXCEPT:
(A) Traditional subsistence fishing
(B) Discharge of untreated industrial effluents
(C) Maintenance of traditional religious rituals that do not pollute the water
(D) Non-motorized eco-tourism activities

108. A Concept Application Regional Plan aimed at restoring an encroached urban lake ecosystem must legally and spatially prioritize:
(A) Regularizing all informal squatter settlements built inside the lakebed
(B) Constructing a mega shopping mall over the wetland to generate revenue
(C) Evicting encroachers and legally notifying a hard green buffer boundary
(D) Diverting all municipal solid waste into the lake to fill it faster

109. What does the "rural non-farm economy" (RNFE) primarily encompass in regional planning?
(A) Exclusively the cultivation of cash crops instead of food grains
(B) All rural income-generating activities not tied to agricultural production
(C) The strictly formal IT sector operations located in rural areas
(D) The practice of dairy farming and poultry management exclusively

110. Read the following statements regarding the Narmada basin as a regional planning unit:
Statement I: The basin covers multiple agro-climatic zones, requiring varied micro-level agricultural strategies within a macro-level water management plan.
Statement II: Because it is a unified hydrological unit, demographic and cultural differences across the basin are completely ignored in regional planning.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

111. Match the following Madhya Pradesh Urban/ Regional planning schemes or bodies (List I) with their primary focus (List II):
List I: Schemes/Bodies
P. CMUIDS (Chief Minister Urban Infrastructure Development Scheme)
Q. MPUDC (MP Urban Development Company)
R. MP Smart Cities Mission
S. RERA
List II: Primary Focus
1. Executing externally aided projects (e.g., World Bank/ADB funded water supply)
2. Implementing ABD (Area Based Development) and Pan-city smart solutions
3. Funding core municipal infrastructure projects across urban local bodies in the state
4. Regulating the real estate sector and protecting home buyers
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-3, R-4, S-1

112. Identify the incorrect pair regarding tribal hinterland infrastructure standards:
(A) Population threshold for PMGSY roads – Relaxed for tribal and hilly areas
(B) Urban Metro – Mandatory in all villages with a population of 500 people
(C) Health Sub-Centers – Established at a lower population threshold in tribes
(D) Primary Schools – Distance norms are stricter due to dispersed hamlets

113. While designing a regional spatial plan that integrates the Delhi-Mumbai Industrial Corridor (DMIC) passing through rural Madhya Pradesh, a planner's most competent strategy to ensure inclusive growth would be:
(A) Planning multi-modal logistic hubs while establishing feeder road networks
(B) Fencing off the entire corridor strictly preventing any rural access
(C) Evacuating a 50-kilometer buffer zone and returning it to wild forest

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(D) Concentrating solely on luxury housing for high-income foreign residents

114. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): The enactment of RERA has significantly curbed the proliferation of unauthorized plotted developments in the peri-urban areas of Madhya Pradesh cities.
Reason (R): RERA makes it mandatory for developers to obtain layout approvals from the Town and Country Planning (TCP) Department and prevents the sale of unapproved plots.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

115. Which of the following is an incorrect statement regarding the Madhya Pradesh Housing and Infrastructure Development Board (MPHIDB)?
(A) It acts as a nodal agency for the execution of various housing schemes
(B) It undertakes land development and disposal of built-up houses
(C) It focuses on luxury high-rises with no mandate for EWS housing
(D) It functions under the control of the Urban Development Department

116. Read the following strategies for integrating climate resilience into regional planning in Madhya Pradesh:
1. Promoting decentralized rainwater harvesting structures in drought-prone Bundelkhand.
2. Implementing strict flood plain zoning along the Narmada and Chambal rivers.
3. Encouraging the clearing of urban forests to expand industrial corridors.
4. Integrating blue-green infrastructure into Master Plans of rapidly urbanizing cities like Indore.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, 3, and 4

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117. When analyzing regional variations in Madhya Pradesh, the Malwa region is primarily contrasted with the Baghelkhand region on the basis of:
(A) Malwa being entirely mountainous and tribal, while Baghelkhand is flat
(B) Malwa being industrialized, while Baghelkhand is rugged and forested
(C) Both regions sharing the exact same average rainfall and soil distribution
(D) Malwa falling in the Ganges basin while Baghelkhand falls in the Godavari

118. Identify the correct pair regarding watershed components in the Integrated Watershed Management Programme (IWMP):
(A) Ridge to Valley Approach – Starting structural interventions at the mouth
(B) Shifting Cultivation – A core promoted practice to enhance soil fertility
(C) Entry Point Activities – Mobilization exercises used to build community trust
(D) Groundwater Depletion – The primary stated goal of the watershed scheme

119. All of the following characteristics are associated with the concept of the "rural-urban continuum", EXCEPT:
(A) Occupational shift from primary to tertiary sectors along the gradient
(B) Increasing land use mix and density as one moves toward the urban core
(C) Improved access to educational and medical services near the urban center
(D) A rigidly enforced wall physically dividing urban and rural residents

120. To systematically manage urban sprawl along a state highway in a peri-urban area, an integrated regional settlement plan should optimally employ:
(A) Total deregulation of land use conversions to let market forces decide
(B) Designation of specialized agro-processing hubs and RURBAN clusters
(C) Banning all vehicular movement on the primary regional state highway
(D) Concentrating all state funding strictly into the Central Business District

ANSWERS

1. (B) A geographic area with homogeneous characteristics planned for balanced growth
A development region is defined as a spatial unit exhibiting similar physical, economic, and social features, which facilitates focused planning efforts. It serves as a framework for implementing growth strategies that address specific local needs. Such regions allow planners to manage resources efficiently while promoting sustainable and balanced development across the state.

2. (C) Statement I is true, but Statement II is false
The administrative structure of the state involves a hierarchy starting from divisions down to blocks for effective governance. Planning authorities must align their strategies with these existing boundaries rather than operating independently. While natural demarcations are important, administrative feasibility requires coordination with district and block levels to ensure that development policies are properly implemented.

3. (A) P-2, Q-4, R-1, S-3
Industrial corridors in the state are categorized by specific roles and geographic locations. Pithampur functions as a major manufacturing hub, while Shajapur-Dewas focuses on agro-processing and engineering projects. The Neemuch-Nayagaon area acts as a western influence investment region. The Delhi-Mumbai Industrial Corridor represents a significant trans-national infrastructure project that crosses through the western districts.

4. (C) Gwalior Division – Morena, Bhind, Sheopur
The state is organized into several administrative divisions for streamlined governance. The districts of Morena, Bhind, and Sheopur actually constitute the Chambal Division rather than the Gwalior Division. Identifying these boundaries correctly is vital for regional planners to allocate resources and implement developmental schemes within the appropriate jurisdictional framework and geographical context of the state.

5. (A) 3, 1, 2, 4
Legislative milestones have shaped regional planning over decades. The Municipal Corporation Act was established in 1956, followed by the Nagar Tatha Gram Nivesh Adhiniyam in 1973. The PESA Act for tribal areas was enacted in 1996, and the Real Estate Regulatory Act was implemented in 2016. These laws provide the necessary legal framework for urban development.

6. (C) A is true but R is false.
The Delhi-Mumbai Industrial Corridor acts as a major economic driver for the western parts of Central India. However, it does not pass through the eastern tribal belts or focus primarily on forest produce exports. Instead, it targets industrialization and infrastructure development along a specific influence zone, connecting major urban nodes to the national transport network efficiently.

7. (B) It mandates that all new residential townships must exclusively consist of high-density high-rise developments.
The state urban development policy focuses on providing inclusive and sustainable housing solutions for various income groups. It does not strictly mandate high-rise developments for all new townships, as planning requires a mix of densities and typologies. The policy emphasizes affordability, private sector participation, and environmental sustainability, such as rainwater harvesting, to ensure balanced and resilient urban growth.

8. (B) 1, 3, and 4
The Real Estate Regulatory Authority ensures transparency and protects buyers in the housing market. It requires registration for larger projects and the use of escrow accounts to safeguard funds. While it provides a standardized framework for property sales, it does not remove the requirement for layout approvals from the Town and Country Planning Department, which remains essential.

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(D) Halt all infrastructure funding to preserve the area as a human zoo

85. In the context of river basin planning, "Blue-Green Infrastructure" is best defined as:
(A) Painting concrete dams in blue and green to improve aesthetics
(B) Constructing advanced underground nuclear waste storage facilities
(C) Paving riverbanks with blue-colored asphalt to reduce surface mud
(D) A network of natural areas and water bodies managing water resources

86. Read the following statements regarding agro-processing zones:
Statement I: Agro-processing zones are spatially designated areas equipped with infrastructure like cold storage, testing labs, and packaging units.
Statement II: Their primary objective is to increase the geographic distance between farmers and processing units to promote long-haul transportation.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true, but Statement II is false
(D) Statement I is false, but Statement II is true

87. Match the River Basins in Madhya Pradesh (List I) with their ultimate discharge/outlet systems (List II):
List I: River Basins
P. Narmada Basin
Q. Chambal Basin
R. Son Basin
S. Wainganga Basin
List II: Discharge/Outlet Systems
1. Ganges River System (via Yamuna)
2. Godavari River System
3. Gulf of Khambhat (Arabian Sea)
4. Ganges River System (Direct tributary joining in Bihar)
(A) P-3, Q-1, R-4, S-2
(B) P-3, Q-4, R-1, S-2
(C) P-1, Q-2, R-3, S-4
(D) P-2, Q-3, R-4, S-1

88. Identify the incorrect pair regarding spatial planning terms:
(A) Peri-urban area – Zone of transition between urban and rural areas
(B) Rural-urban continuum – Settlements existing along a continuous spectrum
(C) RURBAN cluster – A purely metropolitan district for stock exchanges
(D) Counter-magnet area – Growth centers intercepting migratory urban flows

89. To effectively link rural and urban planning frameworks, a District Planning Committee (DPC) must primarily ensure:
(A) Spatial and functional integration of local GPDPs and Master Plans
(B) That rural plans strictly contradict urban master plans for competition
(C) The total abolition of all village-level planning bodies and offices
(D) That infrastructure networks suddenly terminate at municipal boundaries

90. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R):
Assertion (A): Unregulated riverfront development with extensive concrete embankments often degrades river ecology.
Reason (R): Concrete embankments sever the lateral connectivity between the river and its floodplains, destroying riparian habitats and reducing groundwater recharge.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

91. Which of the following is an incorrect statement regarding rural infrastructure planning?
(A) Clean drinking water access is planned under the Jal Jeevan Mission
(B) Rural sanitation planning involves waste management at the village level
(C) Rural roads connecting habitations to existing main district roads
(D) Electrification planning excluding decentralized renewable micro-grids

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land acquisition for development projects. This institutional requirement ensures that the voices of local tribal communities are heard and their rights are protected. For town planners, integrating this consultation process into regional plans is a legal necessity that promotes transparency and social equity.

18. (A) Both A and R are true and R is the correct explanation of A.
Integrated projects in tribal areas prioritize infrastructure because these regions often have dispersed settlements and challenging terrains. Standard development models based on high population density are often not financially feasible in such contexts. Therefore, specialized planning is required to bridge the infrastructure gap, ensuring that even isolated communities have access to essential services and economic opportunities.

19. (A) Frameworks that strictly prohibit all state infrastructure projects
Planning frameworks for tribal areas emphasize self-governance and the protection of community rights over resources. While they mandate consultations and empower local institutions, they do not strictly prohibit all state infrastructure projects. Instead, they provide a structured process for ensuring that such projects are implemented with the consent and for the benefit of the local tribal population.

20. (A) 1, 2, and 4
The Backward Regions Grant Fund was established to address regional imbalances by providing additional financial resources for local infrastructure. It operates through local panchayats and municipalities to bridge critical development gaps rather than bypassing them. By channeling funds through these decentralized bodies, the program supports participatory planning and ensures that investments are directed toward the most pressing needs.

21. (C) Promoting minor forest produce and indigenous poultry farming projects
In backward tribal regions like Alirajpur, planning interventions must be suited to the local context and resource base. High-tech industrial parks or luxury real estate are often inappropriate for such areas. Instead, promoting forest-based livelihoods and indigenous farming practices leverages existing skills and natural assets. This approach provides sustainable economic opportunities that are accessible and beneficial to the local community.

22. (B) Fifth Schedule – Administration of Scheduled Areas and Tribes
The Fifth Schedule of the Constitution provides the primary legal framework for the administration and development of tribal areas. It ensures that planning in these regions considers the unique social and cultural requirements of the population. Other concepts, like the RURBAN mission, aim to provide urban amenities in rural clusters rather than depopulating them or focusing only on cities.

23. (D) High density of super-specialty private medical hospitals
Tribal hinterlands typically face significant planning challenges such as physical isolation, fragmented settlement patterns, and the risk of land alienation. These areas often lack basic services, making the presence of high-density private super-specialty hospitals extremely unlikely. Planners must focus on overcoming these fundamental deficits by improving connectivity and providing essential public health and education infrastructure in these regions.

24. (A) Clustering basic services in a central nodal village for the region
In regions with highly dispersed populations, providing services to every single small hamlet is often inefficient. A spatial hierarchy approach involves identifying central nodal villages that can serve as hubs for a surrounding cluster of settlements. By concentrating infrastructure and services in these nodes, planners can improve access and service delivery efficiency while supporting the wider regional population.

25. (C) A gradual transition in which rural and urban characteristics mix, with no sharp dividing line
The rural-urban continuum concept recognizes that there is often no clear or sudden boundary between cities and the countryside. Instead, there is a transitional zone where land uses, lifestyles, and economic activities blend together. Understanding this continuum is vital for regional

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43. (D) Madhya Pradesh shares the Narmada basin waters exclusively with the state of Chhattisgarh.
The Narmada basin is shared by several states, including Madhya Pradesh, Gujarat, Maharashtra, and Rajasthan. Interstate river water disputes are governed by national laws and can often lead to delays in major regional projects. Adjudication awards determine the specific volume of water each state is entitled to, which has significant implications for regional planning, irrigation, and power generation.

44. (B) 1, 3, and 4
The Integrated Watershed Management Programme focuses on restoring ecological balance and developing natural resources through community participation. It promotes sustainable livelihoods but does not ban agriculture within the watershed. Instead, it aims to improve agricultural productivity through better soil and water conservation. By involving local communities, the program ensures that development is sustainable and meets the needs of the residents.

45. (B) Indore
The rejuvenation of the Kahn and Saraswati rivers is a major environmental priority for the city of Indore. These efforts focus on improving water quality and restoring the riverfront within the urban context. Such projects are essential for enhancing the urban environment, managing wastewater, and providing public spaces, demonstrating how river management is integrated into modern urban planning and city development.

46. (D) Catchment Area – The land area from which surface run-off flows to a river
In river basin planning, the catchment area is defined as the entire land surface that contributes water to a specific river or stream. Other terms, like riparian zones, refer to the land adjacent to the water body, while flood plain zoning is a regulatory tool to manage land use. Accurate terminology is essential for effective communication and technical analysis in regional water resource management.

47. (B) Hazardous waste injection
Watershed management employs various structural and vegetative measures to conserve resources, such as percolation tanks and contour trenching. Gabion structures are also used to stabilize slopes and control water flow. However, hazardous waste injection is an industrial process that is not part of watershed management and can actually damage groundwater resources. Planners must focus on environmentally safe and restorative practices.

48. (D) A narrow stream section with stable banks and a sloped upstream area
Selecting the right site for a check dam is critical for its effectiveness and durability. A narrow section with stable banks provides a strong foundation and reduces construction costs, while a sloped upstream area allows for efficient water storage. Planners must avoid highly permeable beds or built-up areas where construction might be impractical or cause unwanted flooding in residential neighborhoods.

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49. (B) Areas of marsh, fen, peatland, or water, whether natural or artificial in origin
The Ramsar Convention provides a broad definition of wetlands that includes various types of water-saturated habitats, whether natural or man-made. This definition covers marshes, peatlands, and even artificial reservoirs. Recognizing the diverse nature of wetlands is essential for their protection and management, as they provide critical ecosystem services and support biodiversity in both rural and urban regional contexts.

50. (C) Statement I is true, but Statement II is false
The 2017 Wetland Rules decentralized management by creating State Wetland Authorities, empowering local governments to protect these ecosystems. However, the rules strictly prohibit the establishment of new polluting industries within notified wetland boundaries to prevent environmental degradation. This regulatory framework ensures that wetlands are managed sustainably and their ecological integrity is maintained for the long-term benefit of the region.

51. (A) P-3, Q-1, R-2, S-4
Several sites in the state are recognized internationally for their ecological importance. The Bhoj Wetland is in Bhopal, and Sakhya Sagar is located in Shivpuri. Sirpur Wetland and Yashwant

directly involved in primary crop production. Other terms, such as ribbon development, describe linear expansion along transport routes, while GPDP represents a participatory bottom-up planning process. Understanding these terms correctly is essential for regional planners to accurately describe and address different spatial and economic phenomena.

35. (A) Absolute stagnation of land prices
The peri-urban fringe is typically marked by high land market activity and rapid price changes rather than stagnation. It often features unauthorized housing colonies and a mix of agricultural and industrial land uses. Environmental degradation is another common issue due to inadequate waste management. Planners must intervene in these areas to regulate development and protect the environment from rapid sprawl.

36. (B) Establishing a green belt or agricultural zone in the master plan
To prevent the premature loss of productive agricultural land during urban expansion, planners use zoning tools like green belts. By designating specific areas for agricultural use in the master plan, authorities can restrict non-essential development and maintain a natural buffer. This strategy helps control urban sprawl and ensures that land use changes occur in a planned and sustainable manner.

37. (D) It is a natural system allowing for integrated resource management
Using a river basin as a planning unit is logical because it follows natural hydrological boundaries rather than artificial administrative lines. This approach allows for the integrated management of water, land, and biological resources within a single system. It ensures that development activities in one part of the basin consider their impact on the entire hydrological cycle and ecosystem.

38. (C) Statement I is true, but Statement II is false
The Narmada is a major west-flowing river that flows through a rift valley. In contrast, the Chambal River flows northwards and is a tributary of the Yamuna, which eventually joins the Ganges system. It does not flow south or discharge into the Arabian Sea. Understanding these river systems and their directions is fundamental for water resource and regional planning.

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39. (A) P-4, Q-2, R-1, S-3
Major river basins in the state have unique characteristics that influence regional development. The Narmada is the longest river and originates at Amarkantak, while the Chambal is known for its extensive ravine formations. The Tapti flows in a rift valley parallel to the Narmada, and the Betwa is a significant tributary of the Yamuna originating in the Vindhya range.

40. (A) Afforestation – Clear-cutting native trees for commercial agriculture
Watershed development involves various measures to conserve soil and water. Afforestation refers to the planting of trees to restore forest cover, which is the opposite of clear-cutting. Other components include check dams for harvesting rain and contour bunding to prevent erosion. Correctly defining these terms is essential for designing and implementing effective environmental management strategies within a watershed planning framework.

41. (B) Hydrological analysis and historical flood level data points
Delineating flood plain zones requires technical data on water behavior and historical events. Planners use hydrological analysis and records of past floods to identify areas at risk of inundation. This information is critical for determining where construction should be restricted to protect lives and property. It ensures that urban development remains resilient to natural disasters and respects river dynamics.

42. (A) Both A and R are true and R is the correct explanation of A.
The Narmada Valley Development Authority was created to provide a unified approach to managing the basin's vast water resources. Integrated basin planning requires a single authority to coordinate complex tasks like dam construction, irrigation networks, and environmental rehabilitation across multiple districts. This centralized coordination is necessary to ensure that development projects are executed efficiently and their impacts are managed holistically.

forest produce. This is a central component of tribal self-governance and economic empowerment. Incorrectly assuming that these rights are denied ignores the fundamental purpose of the act, which is to safeguard traditional practices and ensure that tribal communities benefit from the natural resources in their areas.

77. (A) 2, 4, 1, 3
The evolution of rural governance in India began with early committees that recommended decentralization. These were followed by the landmark 73rd Constitutional Amendment, which provided a legal basis for panchayats. The PESA Act was subsequently enacted to extend these principles to tribal areas with necessary modifications. This historical sequence highlights the progressive shift toward more participatory and localized planning and governance.

78. (C) A is true but R is false.
Preparing effective village development plans requires the convergence of various government schemes and funding sources. Gram Panchayats do not have unlimited internal revenue and rely heavily on state and central support to implement their projects. By integrating these different resources, local bodies can address development needs more comprehensively and ensure that funds are used efficiently to benefit the community.

79. (A) It assumes that automated heavy industries are the only solution
Livelihood-based planning in backward regions focuses on leveraging local resources and skills rather than relying solely on heavy industry. It emphasizes adding value to agricultural and forest produce while providing access to micro-credit and self-help groups. This approach creates sustainable economic opportunities that are more appropriate for the local context and more accessible to the residents of these regions.

80. (A) 1, 2, and 4
The Backward Regions Grant Fund uses participatory planning at the district level to address development gaps. It provides flexible funds that can be used for various local needs, including health and education infrastructure. Capacity building for local officials is also a key part of the program, ensuring that they have the skills to manage resources and implement development projects effectively.

81. (B) Respecting traditional dispersed homestead patterns and shifting history
Planning for particularly vulnerable tribal groups must be sensitive to their traditional lifestyles and settlement patterns. Forcing residents into urban-style high-rises or rigid grid patterns can be culturally disruptive and ineffective. Instead, planners should respect traditional housing styles and dispersed layouts, which are better suited to the social and economic practices of these communities and their relationship with the land.

82. (D) Gram Sabha – Consists of all registered voters within the Panchayat
The Gram Sabha is the fundamental unit of local democracy, comprising all registered voters in a village. Other bodies, like the Zila and Janpad Panchayats, operate at higher administrative levels. Understanding the role and membership of the Gram Sabha is essential for participatory planning, as it provides the platform for community members to directly influence local development decisions and priorities.

83. (B) The power to declare war or negotiate international treaties
Under the PESA Act, Gram Sabhas are granted significant local powers, such as managing village markets and regulating the sale of intoxicants. However, powers related to national defense or international relations remain with the central government. The act focuses on empowering communities to manage their own social and economic affairs while respecting the overarching constitutional framework of the country.

84. (C) Concentrate strategic investments in nodes with high growth potential
The growth center approach involves identifying specific locations with the potential to stimulate economic activity in the surrounding region. By concentrating infrastructure and services in these nodes, planners can create hubs that attract investment and provide benefits to a wider area. This strategy is more effective for regional development than distributing resources too thinly across all settlements or ignoring backward regions entirely.

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Sagar are both situated in the Indore region. Identifying these locations is vital for regional planners to implement specific conservation measures and adhere to international standards for wetland management.

52. (A) Ecosystem Services – The construction of commercial water parks on lakebeds
Ecosystem services refer to the natural benefits that wetlands provide to people, such as water purification and flood control. Constructing commercial parks on lakebeds is an example of encroachment and habitat loss, not an ecosystem service. Other terms like eutrophication and buffer zones describe critical ecological processes and management tools that planners must understand to protect and restore urban lakes effectively.

53. (A) 3, 2, 1, 4
The history of wetland conservation is marked by international and national milestones. The Ramsar Convention was adopted first, followed by India's National Lake Conservation Plan. The national Wetland Rules were notified later, and more recently, several sites in the state were officially designated as Ramsar sites. This chronological progression reflects the growing awareness and formalization of wetland protection policies over time.

54. (A) Both A and R are true and R is the correct explanation of A.
Buffer zone planning is essential for protecting urban wetlands from the negative impacts of surrounding development. These zones act as physical barriers that help filter pollution, prevent encroachment, and reduce soil erosion. By establishing a dedicated buffer area, planners can ensure the ecological health of the water body while providing a transitional space that supports both biodiversity and urban resilience.

55. (D) The Bhoj Wetland is completely insulated from urban sewage due to its high altitude.
Despite its importance, the Bhoj Wetland faces significant pressure from the surrounding urban area, including the threat of sewage discharge. It is not naturally insulated from these impacts, and active management, such as catchment treatment and waste diversion, is necessary to protect its water quality. Planners must address these anthropogenic pressures to ensure the long-term survival of this critical urban ecosystem.

56. (C) 1, 2, and 3
Urban wetlands are threatened by several factors, including untreated sewage, solid waste dumping, and the paving of catchment areas. These activities lead to eutrophication, habitat loss, and reduced groundwater recharge. However, the strict enforcement of zoning actually helps prevent encroachment rather than accelerating it. Understanding these threats allows planners to develop targeted interventions that address the most critical environmental challenges.

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57. (B) Promoting organic farming and restricting fertilizers in the catchment
Non-point source pollution from rural areas often involves the runoff of fertilizers and pesticides into water bodies. To manage this, planners can promote organic farming and other sustainable land-use practices within the catchment. This approach reduces the chemical load entering the wetland, helping to prevent eutrophication and maintain water quality without the need for intrusive physical structures like high walls.

58. (C) Ramsar Site – A wetland of international importance designated
A Ramsar site is a wetland specifically recognized under an international convention for its global ecological significance. Other terms refer to different aspects of wetland ecosystems, such as the littoral zone being the shallow area near the shore. Correctly identifying these classifications is essential for regional planners to apply the appropriate management standards and conservation strategies to these important habitats.

59. (D) Traditional sustainable fishing practices by local communities
While the 2017 Wetland Rules prohibit activities like encroachment, waste discharge, and industrial expansion, they generally allow for traditional and sustainable practices. Sustainable fishing by local communities is typically permitted as it is often compatible with conservation goals. This balanced approach ensures that environmental protection does not unnecessarily harm the livelihoods of people

irrigation and water security for residents in this historically water-stressed area. By connecting these two rivers, the project addresses regional imbalances in water availability and supports the long-term economic and agricultural development of the region.

94. (C) Narmada Tribunal – Apportioned waters between MP, Gujarat, and Rajasthan
The Narmada Water Disputes Tribunal was established to settle the share of water among the riparian states of the Narmada basin. Its awards are fundamental for planning irrigation and power projects in the state. Other tribunals, like the Mahanadi or Cauvery, deal with different river systems and states. Correctly identifying the relevant tribunal is essential for understanding the legal context of interstate water management.

95. (D) Absolute clarity and lack of administrative jurisdiction overlap
The urban fringe is typically characterized by complex administrative overlaps between rural and urban authorities. This often leads to confusion and haphazard development, such as unauthorized land divisions and speculative holdings. These areas do not have absolute administrative clarity. Planners must navigate these jurisdictional challenges to implement effective zoning and ensure that the transition from rural to urban land use is properly managed.

96. (A) Establishing growth boundaries and transit-oriented development corridors
To manage urban sprawl, planners can use growth boundaries to define where development should occur and protect agricultural land. Transit-oriented development focuses growth around public transport hubs, reducing the need for long commutes and preventing linear ribbon development along highways. These tools are essential for creating more compact and sustainable urban areas while protecting the surrounding countryside and improving regional connectivity.

97. (B) The direct and indirect contributions of ecosystems to human well-being
Ecosystem services are the natural benefits that environments like wetlands provide to people, such as climate regulation, water filtration, and cultural enrichment. These are not commercial fees or industrial processes but essential natural functions that support human life and well-being. Recognizing these services is a fundamental part of ecological planning, as it helps justify the conservation of natural habitats in regional development strategies.

98. (C) Statement I is true, but Statement II is false
A buffer zone is a protective transitional area around a wetland designed to absorb human impacts and environmental shocks. The use of such zones for hazardous industries is strictly discouraged as it would directly undermine the goal of protecting the wetland ecosystem. Instead, buffer zones should be managed with low-impact land uses that support the ecological integrity and health of the water body.

99. (A) P-2, Q-1, R-4, S-3
Different wetland conservation challenges require specific management responses. Eutrophication is addressed by diverting sewage, while structural encroachment is prevented by strictly enforced boundaries. Siltation can be reduced through catchment area afforestation, and biodiversity loss is mitigated by restoring native vegetation. These targeted strategies are essential for a comprehensive approach to lake conservation and the protection of urban ecosystems.

100. (B) Subterranean Wetlands – Floating clouds and atmospheric vapor
Subterranean wetlands refer to underground water systems such as those found in caves, rather than atmospheric moisture. The Ramsar framework also classifies marine, coastal, and human-made wetlands like reservoirs. Accurately identifying these types is important for planners to understand the full range of wetland habitats and to apply the correct international and national standards for their protection and sustainable management.

101. (A) 1, 3, 4, 2
Establishing flood plain zones involves a technical process starting with topographical surveys and contour mapping. This is followed by hydrological modeling to predict flood levels and the physical demarcation of flood lines on the ground. Finally, the prohibitive and restrictive zones are formally identified and notified. This sequential approach

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68. (B) 1, 2, and 4
Tribal planning frameworks involve multi-level projects and dedicated funds aimed at community welfare. These plans must respect customary laws and local ownership of resources to be effective. While they focus on improving livelihoods, they do not prioritize heavy industrial zones in tribal villages. Instead, the focus is on sustainable development that aligns with the social and cultural context of the tribal population.

69. (D) Automobile and auto-components manufacturing clusters
Pithampur is renowned as a major industrial node specifically for its concentration of automobile and related component manufacturing. This specialized cluster has attracted significant investment and created numerous employment opportunities in the region. Understanding the dominant industries in these nodes allows planners to design supporting infrastructure and services that cater to the specific needs of these economic drivers.

70. (A) Division → District → Tehsil → Gram Panchayat
The administrative hierarchy of the state follows a clear path from large divisions down to the local gram panchayats. This structure provides the framework for governance, service delivery, and planning. Regional planners must understand these levels to ensure that policies are effectively cascaded down and that local needs are appropriately represented in higher-level development strategies and resource allocations.

71. (B) Where the project is a commercial shopping mall built on 5000 square meters of land
RERA registration is mandatory for most significant real estate projects to ensure transparency and accountability. While very small projects or simple renovations may be exempt, a large commercial project like a shopping mall must be registered. This requirement ensures that even large-scale commercial developments are subject to the same regulatory standards and consumer protections as residential housing projects.

72. (B) Multi-modal freight terminals linking railways and national highways
Leveraging the state's central location for logistics requires developing integrated transport networks. Multi-modal freight terminals that connect rail and road are essential for efficient goods movement. This spatial strategy focuses on creating high-capacity infrastructure that supports national supply chains. It prioritizes nodes that can serve as logistical hubs, rather than focusing only on local roads or completely bypassing major urban centers.

73. (A) By carving out contiguous blocks where the ST population exceeds 50%
Integrated Tribal Development Projects are spatially defined areas based on a high concentration of tribal inhabitants. These areas are delineated to ensure that developmental resources and administrative focus are directed toward communities with specific needs. By targeting blocks where the tribal population is the majority, the state can implement more effective and culturally appropriate planning and welfare programs.

74. (C) Statement I is true, but Statement II is false
The Fifth Schedule provides the Governor with special powers to adapt laws for the benefit of scheduled areas. Several districts and regions in the state are officially declared under this schedule due to their significant tribal populations. This constitutional provision is a fundamental aspect of regional planning in the state, ensuring that tribal areas receive the necessary protections and specialized governance.

75. (A) P-1, Q-2, R-4, S-3
Different tribal communities in the state are closely associated with specific geographic regions and planning contexts. The Bharia tribe is found in Patalkot, while the Baiga inhabit the Baigachak region. The Sahariya are located in the northern districts, and the Bhil tribe is primarily in the western part of the state. These distributions are critical for designing culturally relevant development plans.

76. (C) Minor Forest Produce – Ownership denied to local tribal communities
The PESA Act empowers local tribal communities by granting them ownership rights over minor

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who have traditionally relied on these wetland resources.

60. (A) Constructed wetlands, bio-swales, and pavements in the catchment area
Blue-green infrastructure uses natural systems to manage water and improve the urban environment. Implementing constructed wetlands and bio-swales helps filter runoff and recharge groundwater naturally. This approach is much more effective for restoring lake health than traditional concrete drainage systems or covering the water surface. It integrates ecological restoration into the planning of urban infrastructure, creating more resilient and sustainable city landscapes.

61. (B) A multi-modal transport network linking nodes of regional development
An industrial corridor is a strategic regional development concept that combines high-quality transport infrastructure with industrial and urban clusters. It is not an isolated factory but a network that facilitates the efficient movement of goods and people between development nodes. This approach leverages logistical advantages to attract investment, create jobs, and stimulate economic growth across a wide geographic area.

62. (C) Statement I is true, but Statement II is false
The state's central location makes it a vital hub for national logistics and trade, providing significant developmental advantages. Contrary to being resource-poor, the state is rich in minerals and forests, which form the basis for many of its regional industries. Planners must leverage these natural assets and the state's strategic position to develop integrated regional plans that support sustainable economic growth.

63. (A) P-1, Q-4, R-3, S-2
The state's development regions are characterized by their unique physical and economic features. The Malwa plateau is an agrarian and industrial belt, while Baghelkhand is known for its mineral wealth and forests. The Narmada valley is highly productive due to intense irrigation, and Bundelkhand is a historically drought-prone area that requires specialized planning packages to address its challenges.

64. (C) NVDA – Formulates Master Plans for the city of Gwalior
Development authorities have specific territorial and functional mandates. While organizations like the BDA and IDA operate within their respective cities, the NVDA focuses on the integrated development of the Narmada basin and does not prepare master plans for Gwalior. Understanding these specific roles is essential for coordination among different planning agencies and ensuring that development projects are managed by the appropriate authority.

65. (D) Reserving a percentage of developed land for EWS and LIG housing
To achieve inclusive growth, regional plans must ensure that housing is accessible to all income levels. Reserving land for economically weaker sections and low-income groups is a key strategy mandated by urban policy. This approach prevents social exclusion and ensures that the benefits of urban development are shared equitably, providing secure housing for the most vulnerable members of the community.

66. (A) Both A and R are true and R is the correct explanation of A.
RERA has played a significant role in improving the orderliness of real estate development by mandating layout approvals and financial transparency. By penalizing unauthorized plotted developments and the diversion of funds, it has brought more accountability to the sector. This regulatory environment supports planned urban growth and protects consumers, ensuring that peri-urban expansion occurs within a recognized and approved legal framework.

67. (B) The DMIC is entirely funded and managed by local Gram Panchayats
The Delhi-Mumbai Industrial Corridor is a large-scale national project that involves high-level funding and coordination between state and central governments. It is not managed or funded by local gram panchayats, although it passes through many rural areas. The project aims to develop smart industrial cities and regional investment nodes, like Pithampur, to create a modern industrial backbone for the region.

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85. (D) A network of natural areas and water bodies managing water resources
Blue-green infrastructure refers to an integrated network of natural and semi-natural features designed to manage water resources and improve environmental quality. This include parks, wetlands, and water bodies that provide multiple benefits, such as flood control and habitat support. By incorporating these elements into planning, authorities can create more sustainable and resilient urban and regional landscapes that mimic natural hydrological processes.

86. (C) Statement I is true, but Statement II is false
Agro-processing zones are planned areas with the infrastructure needed to process and package agricultural products. Their primary goal is to reduce the distance between farmers and processing units, which helps lower costs and minimize post-harvest losses. By bringing these facilities closer to the point of production, the zones support rural economies and create more efficient links to consumer markets.

87. (A) P-3, Q-1, R-4, S-2
River basins in the state discharge into different major river systems or seas. The Narmada flows into the Gulf of Khambhat, while the Chambal is part of the Yamuna and Ganges systems. The Son is a direct tributary of the Ganges, and the Wainganga belongs to the Godavari system. Mapping these outlets is crucial for understanding the state's role in wider national hydrological networks.

88. (C) RURBAN cluster – A purely metropolitan district for stock exchanges
A RURBAN cluster is intended to provide urban-level amenities in rural areas to support local development and reduce migration. It is not a metropolitan business district. Understanding these spatial concepts, such as the peri-urban transition zone and counter-magnet areas, is essential for planners to address the complex interactions between different types of settlements and manage regional growth effectively.

89. (A) Spatial and functional integration of local GPDPs and Master Plans
To link rural and urban planning, District Planning Committees must ensure that local village plans and city master plans are well-coordinated. This integration prevents conflicts and ensures that infrastructure and services are developed in a way that benefits both urban and rural residents. By aligning these different levels of planning, the committee supports more holistic and effective regional development.

90. (A) Both A and R are true and R is the correct explanation of A.
Replacing natural riverbanks with concrete can harm river ecosystems by cutting off the connection between the water and its floodplains. This loss of connectivity destroys habitats and prevents the natural recharge of groundwater. Planners must balance the need for riverfront development with ecological conservation by using more sustainable, natural techniques that maintain the environmental health and functions of the river.

91. (D) Electrification planning excluding decentralized renewable micro-grids
Modern rural infrastructure planning includes diverse strategies for connectivity, water, and sanitation. Electrification efforts increasingly incorporate decentralized renewable sources like solar micro-grids, especially in remote areas. Excluding these options would limit the effectiveness of planning in reaching all habitations. Holistic planning ensures that rural communities have access to the full range of essential services using the most appropriate and sustainable technologies available.

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92. (A) 1, 2, and 4
The Narmada Valley Development Authority manages major multi-purpose projects and is responsible for the rehabilitation of project-affected families. It also oversees irrigation networks to ensure efficient water use. While it coordinates with various agencies, it does not delegate environmental clearances to local bodies. Its role is central to executing large-scale infrastructure while managing the social and environmental consequences of basin development.

93. (B) Bundelkhand
The Ken-Betwa river interlinking project is designed to transfer surplus water to the drought-prone Bundelkhand region. This significant regional planning initiative aims to improve

planning, as it requires flexible strategies that address the unique challenges of these evolving mixed-use areas.

26. (C) Statement I is true, but Statement II is false
Hamlets are small settlements that function as satellites to larger villages within a rural administrative framework. Market towns, however, occupy a higher position in the rural hierarchy, serving as hubs for trade and services for multiple surrounding villages. They provide secondary processing and higher-order amenities, rather than just serving the immediate households within their own narrow administrative boundary.

27. (A) P-3, Q-1, R-4, S-2
The rural-urban hierarchy consists of different settlement types with distinct functions. Hamlets are the smallest housing clusters, while villages serve as the primary units of rural administration. Market towns act as hubs for agricultural trade and secondary services. Peri-urban areas are zones of rapid land-use transition on the city fringes, where rural and urban characteristics frequently overlap.

28. (D) AMRUT – Promotion of agro-processing zones in deeply forested rural hinterlands
Infrastructure schemes are designed for specific contexts. While PMGSY and Jal Jeevan Mission target rural connectivity and water supply, AMRUT is primarily an urban renewal mission focused on improving services in cities. It does not promote agro-processing in forested rural areas. Understanding the correct scope of these schemes is essential for planners to apply for and utilize funding.

29. (A) 2, 4, 3, 1
Preparing a village development plan involves several sequential stages. It begins with community mobilization and environment building, followed by a detailed situation analysis using participatory methods. Once the needs are identified, projects are formulated and resources are allocated. The process concludes with the formal approval of the draft plan by the Gram Sabha to ensure local community ownership.

30. (A) Both A and R are true and R is the correct explanation of A.
The Rurban Mission focuses on developing smart village clusters to stimulate local economic growth and improve basic services. By creating well-planned clusters with urban-like amenities, the mission aims to make rural living more viable and attractive. This strategy helps reduce the pressure of distress migration to cities by providing better opportunities and infrastructure within the rural hinterlands themselves.

31. (B) The rural non-farm economy strictly includes only traditional subsistence farming activities.
The rural non-farm economy encompasses a wide range of activities beyond traditional farming, such as processing, trade, and services. Agro-processing zones play a vital role in this economy by reducing post-harvest losses and creating alternative employment. These zones link primary production with urban markets, providing a critical boost to rural livelihoods and diversifying the economic base of rural areas.

32. (B) 1, 3, and 4
Peri-urban areas are dynamic zones characterized by speculative land markets and the active conversion of agricultural land. These areas often face infrastructure deficits due to overlapping jurisdictions between different local bodies. Unlike established urban centers, they typically lack well-regulated zoning systems. Planners must address these complexities to ensure that the transition from rural to urban land use is managed effectively.

33. (B) Population growth rates and non-farm economic activities
Selection for the RURBAN mission is based on specific criteria that indicate the potential for growth and transformation. Key factors include population growth rates and the prevalence of non-farm economic activities within the cluster. These indicators help identify areas that are already undergoing a transition and would benefit most from integrated planning and the provision of urban-level infrastructure.

34. (D) Rural Non-farm Economy – Income activities excluding primary agriculture
The rural non-farm economy refers to all income-generating activities in rural areas that are not

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ensures that flood risk management is based on accurate data and clear regulatory frameworks.

102. (A) Both A and R are true and R is the correct explanation of A.
Comprehensive catchment treatment is vital for wetlands because it directly addresses the source of many environmental problems. Soil erosion in the catchment leads to siltation, which reduces the lake's storage capacity and harms its ecology. By implementing soil conservation and afforestation upstream, planners can protect the water body and ensure its long-term viability as a critical regional resource and habitat.

103. (D) It was created naturally by a tectonic shift in the 21st century.
Sakhya Sagar is a man-made wetland with a significant history, rather than a natural tectonic feature. It is an internationally recognized Ramsar site that provides important habitat for crocodiles and other wildlife within its protected area. Understanding the origin and ecological value of such sites is essential for regional planners to design effective conservation strategies that respect both natural and cultural heritage.

104. (A) 1, 2, and 3
The National Lake Conservation Plan provides guidelines for restoring water bodies through sewage diversion, catchment treatment, and bioremediation. It does not recommend concrete paving of lake bottoms, as this would disrupt the natural interaction between the lake and groundwater. These guidelines focus on improving water quality and ecological health through sustainable and natural management practices that support the entire hydrological system.

105. (C) Mitigating the influx of untreated sewage and waste from adjacent wards
The Lower Lake in Bhopal is heavily impacted by the surrounding dense urban population, which contributes to pollution through untreated sewage and waste. Mitigating these anthropogenic pressures is the most critical task for planners to protect the lake's water quality. Unlike natural evaporation or local resource collection, these urban impacts cause severe and rapid environmental degradation that requires urgent and targeted infrastructure interventions.

106. (A) Provisioning Services – Supply of fresh water, fish, and fuel
Ecosystem services are categorized into different types, such as provisioning services that provide physical resources like water and food. Other categories include regulating services for flood control and cultural services for recreation and spiritual value. Correctly identifying these roles helps planners evaluate the full benefit of natural systems and integrate their conservation into regional development and resource management strategies effectively.

107. (B) Discharge of untreated industrial effluents
Within the regulated zones of a wetland, activities that do not harm the ecosystem, such as traditional fishing or eco-tourism, are typically allowed. However, the discharge of untreated industrial waste is strictly prohibited due to the severe damage it causes to water quality and biodiversity. This regulatory approach ensures that the wetland remains healthy while still supporting some levels of compatible human activity.

108. (C) Evicting encroachers and legally notifying a hard green buffer boundary
Restoring an encroached urban lake requires firm legal and spatial actions to protect the water body. Evicting illegal structures and establishing a formal green buffer are necessary steps to prevent further damage and allow the ecosystem to recover. This strategy prioritizes long-term ecological health over immediate commercial gain or the regularization of unauthorized development, ensuring that the lake continues to provide essential services.

109. (B) All rural income-generating activities not tied to agricultural production
The rural non-farm economy encompasses all economic activities in rural areas that are not directly involved in primary agriculture. This includes manufacturing, services, and trade, providing vital alternative income sources for rural households. Supporting this sector is a key regional planning strategy to diversify local economies, reduce dependence on farming, and improve overall economic resilience in rural hinterlands.

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(B) P-3, Q-2, R-1, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-1, Q-4, R-2, S-3

14. What is the mandatory requirement for new group housing societies or apartments to mitigate groundwater depletion according to standard environmental norms?
(A) Establishment of independent underground aquifers
(B) Importation of water from neighboring states
(C) Installation of rooftop rainwater harvesting systems
(D) Mandatory use of hand pumps instead of motorized pumps

15. Consider the following statements regarding dual pipe systems in urban water infrastructure:
Statement I: Dual pipe systems utilize one network for potable water and a completely separate network for non-potable recycled water.
Statement II: Dual pipe systems significantly increase the demand on primary freshwater sources by mixing greywater with blackwater.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

16. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Elevated Storage Reservoirs (ESRs) are essential components of urban water distribution systems in flat terrains.
Reason (R): ESRs provide the necessary gravitational head to maintain adequate residual pressure at consumer taps during peak demand hours.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

17. Which of the following statements regarding rainwater harvesting (RWH) in urban planning is INCORRECT?
(A) Artificial recharge structures can help in reducing urban flooding by capturing surface runoff.
(B) Groundwater recharged through urban road runoff does not require any filtration or desilting pit.
(C) RWH systems generally require a first-flush mechanism to bypass contaminated initial runoff.
(D) The catchment area, rainfall intensity, and runoff coefficient dictate the design capacity of an RWH system.

18. Which major water supply project serves as a critical lifeline by conveying water over 70 km to address the drinking water needs of Indore city?
(A) Kolar Dam Project
(B) Kerwa Dam Scheme
(C) Barna Dam Project
(D) Narmada Water Supply Scheme

19. Consider the following factors:
1. Size of the city
2. Climatic conditions
3. Level of industrialization
4. Cost of water and metering system
Which of the above factors influence the per capita water demand of a city?
(A) 1, 2, 3 and 4
(B) 1, 2 and 3 only
(C) 2, 3 and 4 only
(D) 1 and 4 only

20. What is meant by "Water Budgeting" in the context of urban hydrology?
(A) Formulating the annual financial budget for the routine maintenance and repair of municipal pipelines.
(B) Determining differential tariff structures for various categories of domestic and commercial water consumers.
(C) Quantifying all moisture inputs, outputs, and storage changes within a defined urban hydrological unit.
(D) Developing a detailed cost estimate for the engineering and construction of a new treatment plant.

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118. (C) Entry Point Activities – Mobilization exercises used to build community trust
Watershed management programs use entry point activities to engage with local communities and establish a foundation of trust. These activities are essential for successful participatory planning and the long-term sustainability of the project. Other terms like the ridge to valley approach describe the technical strategy of starting interventions at the highest points, rather than focusing on shifting cultivation or groundwater depletion.

119. (D) A rigidly enforced wall physically dividing urban and rural residents
The rural-urban continuum describes a smooth transition between different settlement types, with changing occupational patterns and land uses. It does not involve rigid physical walls or barriers between residents. Understanding this gradual shift is vital for regional planners, as it requires flexible and integrated strategies that address the unique and evolving needs of communities living along this continuous spectrum of settlement types.

120. (B) Designation of specialized agro-processing hubs and RURBAN clusters
To manage sprawl along major highways, planners can designate specific growth nodes like agro-processing hubs and RURBAN clusters. This strategy directs development into planned areas rather than allowing it to spread uncontrollably. By focusing investment and infrastructure in these designated zones, authorities can support rural economic growth while protecting the surrounding landscape and ensuring more orderly and sustainable regional development along transport corridors.

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2. Capacity assessment of existing outfalls
3. Design of potable water distribution zones
4. Identification of vulnerable waterlogging hotspots

Which of the above components are typically included in a comprehensive urban Storm Water Drainage Master Plan?

(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

44. What defines a 'Partially Separate' sewerage system?

(A) A collection system where all industrial wastewater is strictly isolated from standard domestic wastewater streams.
(B) A system carrying sewage and early runoff together, while routing major street stormwater through a separate network.
(C) An infrastructure network that separates blackwater and greywater into distinct treatment and recycling streams.
(D) A drainage network designed to operate via gravity during dry weather but requiring full pumping during monsoons.

45. A highly congested, land-constrained urban area urgently requires a new sewage treatment plant to meet regulatory effluent standards, including nutrient removal. Which technology is best suited for this application?

(A) Sequencing Batch Reactor (SBR)
(B) Waste Stabilization Ponds
(C) Constructed Wetlands
(D) Primary Settling Tanks only

46. Which of the following is NOT an acceptable method for the disposal or reuse of treated sewage effluent under standard engineering norms?

(A) Discharge into surface water bodies meeting requisite BOD limits
(B) Use in urban landscape irrigation
(C) Direct injection into unconfined aquifers used for drinking water
(D) Supply as cooling water for industrial thermal power plants

47. Identify the correct pair regarding sewage treatment stages:

(A) Primary Treatment : Biological degradation of organic matter
(B) Preliminary Treatment : Removal of rags, grit, and large floating objects
(C) Secondary Treatment : Chemical dosing to remove phosphorus
(D) Tertiary Treatment : Setting of heavy inorganic solids through gravity

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48. An Assistant Town Planner is designing a sanitation strategy for an unsewered town. What is the most appropriate, cost-effective, and compliant intervention to prevent environmental degradation?

(A) Constructing a deep-tunnel combined sewerage network to cover the entire municipal area.
(B) Banning onsite sanitation technologies entirely and strictly enforcing open defecation laws.
(C) Establishing a scheduled Faecal Sludge Management system coupled with a localized treatment plant facility.
(D) Diverting all collected septage from domestic tanks directly into the nearest existing agricultural canals.

49. Match List-I (Solid Waste Processing Technologies) with List-II (Description):

List I: (Solid Waste Processing Technologies)
P. Vermicomposting
Q. Biomethanation
R. Refuse Derived Fuel (RDF)
S. Sanitary Landfill

List II: (Description)
1. Anaerobic digestion of organic waste yielding biogas and manure
2. Processing high calorific value dry waste into pellets for industrial boilers
3. Decomposition of organic waste utilizing specific species of earthworms
4. Engineered facility for final disposal of inert and residual waste

(A) P-1, Q-3, R-4, S-2
(B) P-3, Q-1, R-2, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-1, R-3, S-4

50. For establishing a viable Waste-to-Energy (WtE) incineration plant, what is the crucial

river for all districts
(D) Preparation of a City Water Balance Plan (CWBP)

7. Consider the following components of an urban water budget:
1. Precipitation
2. Surface runoff
3. Evapotranspiration
4. Groundwater recharge

Which of the above components must be accurately quantified to determine the net water availability within a municipal watershed?
(A) 1 and 2 only
(B) 1, 2, 3 and 4
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

8. How is 'Evapotranspiration' defined in urban hydrology?
(A) The process where impervious urban surfaces prevent precipitation from infiltrating the subsurface soil layers.
(B) The artificial replenishment of underground aquifers using treated wastewater injected via deep recharge wells.
(C) The total transfer of moisture to the atmosphere through soil evaporation and plant transpiration.
(D) The mechanical separation of dissolved minerals and salts from contaminated surface water sources for treatment.

9. An urban planner is designing a water supply layout for a newly developed, well-planned residential sector with a strict rectangular street pattern. Which distribution network system should be applied to optimize flow and pressure?
(A) Radial system
(B) Ring system
(C) Dead-end system
(D) Grid iron system

10. Arrange the following processes of conventional surface water treatment in the correct chronological order of their application:
1. Filtration
2. Aeration
3. Disinfection
4. Coagulation and Flocculation
5. Sedimentation

(A) 2, 4, 5, 1, 3
(B) 4, 2, 1, 5, 3
(C) 2, 5, 4, 1, 3
(D) 4, 5, 2, 3, 1

11. Identify the correct pair regarding standard Service Level Benchmarks (SLBs) for urban water supply:
(A) Coverage of water supply connections : 80% target
(B) Extent of Non-Revenue Water (NRW) : 20% target
(C) Continuity of water supply : 12 hours per day target
(D) Efficiency in collection of water charges : 70% target

12. A mid-sized city currently supplying water intermittently for 2 hours a day wants to upgrade to a 24x7 water supply system. What is the most critical competency-based intervention required before full-scale implementation?
(A) Constructing large aesthetic water fountains and landscaped green spaces across various public parks.
(B) Implementing District Metered Area (DMA) based hydraulic auditing and leakage mapping protocols.
(C) Replacing all existing surface water intake sources with high-capacity deep tube well systems.
(D) Removing all domestic water meters to standardize the monthly billing process for consumers.

13. Match List-I (Types of Valves in Water Supply) with List-II (Function):
List I: (Types of Valves in Water Supply)
P. Sluice Valve
Q. Air Relief Valve
R. Scour Valve
S. Check Valve
List II: (Function)
1. Releases accumulated air at the summits of pipelines
2. Allows water to flow in one direction only
3. Drains water from the lowest points of the pipeline
4. Regulates or completely stops the flow of water in a pipe
(A) P-4, Q-1, R-3, S-2

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CHAPTER 06
Urban Infrastructure Systems

1. Match List-I (Urban Water Supply Components) with List-II (Primary Function):
List I: (Urban Water Supply Components)
P. Coagulation
Q. Filtration
R. Disinfection
S. Elevated Storage Reservoir
List II: (Primary Function)
1. Destroys pathogenic microorganisms
2. Equalizes distribution pressure and balances demand
3. Destabilizes colloidal particles using chemicals
4. Removes remaining suspended matter through a porous medium
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

2. What is the recommended per capita water supply standard for a city provided with a piped water supply and an existing or proposed sewerage system?
(A) 70 lpcd
(B) 100 lpcd
(C) 135 lpcd
(D) 150 lpcd

3. Consider the following statements regarding water distribution network types:
Statement I: The dead-end system of water distribution is most suitable for irregularly developed older towns due to its low initial cost and simplicity.
Statement II: The dead-end system ensures continuous circulation of water, thereby preventing the degradation of water quality.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

4. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Maintaining a 24x7 water supply system significantly reduces the risk of waterborne diseases in urban areas.
Reason (R): Continuous positive pressure in the distribution pipelines prevents the ingress of contaminated groundwater and sewage during non-supply hours.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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5. Which of the following statements is INCORRECT regarding Non-Revenue Water (NRW)?
(A) It includes billed authorized consumption which forms the primary revenue stream for the utility.
(B) It includes physical losses such as leakages from transmission and distribution mains.
(C) It includes commercial losses caused by unauthorized consumption and metering inaccuracies.
(D) It includes unbilled authorized consumption such as water used for firefighting and religious institutions.

6. Which of the following is a primary mandatory reform aimed at ensuring water security in urban local bodies?
(A) Privatization of all urban water treatment plants
(B) Abolition of user charges for domestic water supply
(C) Exclusively sourcing water from a single

21. A municipality plans to utilize recycled wastewater to reduce stress on fresh water. For which of the following urban applications is the use of recycled water through a dual pipe system most appropriate?
(A) Flushing of toilets and urban landscaping
(B) Drinking and cooking in residential complexes
(C) Hospital surgical ward sanitization
(D) Food processing industries

22. Which of the following is an EXCEPTION to the standard processes utilized in a conventional municipal surface water treatment plant?
(A) Flocculation
(B) Rapid Sand Filtration
(C) Chlorination
(D) Reverse Osmosis

23. Identify the correct pair regarding standard water demand parameters:
(A) Institutional requirement : 150-200 lpcd
(B) Fire demand calculation : Kuichling's formula
(C) Slum area with public standposts : 135 lpcd
(D) Mega cities with full flushing system : 80 lpcd

24. An Assistant Town Planner is tasked with minimizing Non-Revenue Water (NRW) in an older municipal ward. Which strategy reflects the most comprehensive approach in addressing both physical and commercial losses?
(A) Increasing the monthly water tariff linearly across all residential and commercial consumer categories.
(B) Upgrading all conventional water treatment plant filter beds to advanced micro-filtration technology.
(C) Creating District Metered Areas while enforcing leak detection and regularizing unauthorized consumer connections.
(D) Banning the installation and use of individual overhead water tanks in private residential buildings.

25. Match List-I (Sewage Treatment Technologies) with List-II (Defining Characteristic):
List I: (Sewage Treatment Technologies)
P. UASB (Upflow Anaerobic Sludge Blanket)
Q. SBR (Sequencing Batch Reactor)
R. MBR (Membrane Bioreactor)
S. Waste Stabilization Ponds
List II: (Defining Characteristic)
1. Utilizes microfiltration/ultrafiltration modules submerged in the bioreactor
2. Carries out biological treatment and settlement sequentially in the same tank
3. Anaerobic process generating biogas without requiring external aeration
4. Large land requirement relying on natural solar and biological processes
(A) P-4, Q-1, R-3, S-2
(B) P-3, Q-1, R-2, S-4
(C) P-2, Q-3, R-1, S-4
(D) P-3, Q-2, R-1, S-4

26. When designing a sewerage network, what is the generally accepted percentage of the per capita water supply that is estimated to return as sewage?
(A) 40-50%
(B) 60-65%
(C) 80-85%
(D) 95-100%

27. Consider the following statements regarding sewerage systems:
Statement I: A combined sewerage system carries both domestic sewage and storm water runoff in a single pipe network.
Statement II: Combined sewerage systems require smaller diameter pipes and lower capital investment compared to separate sewerage systems.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

28. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Faecal Sludge Management (FSM) is a critical planning intervention for peri-urban areas and small towns.
Reason (R): These areas often lack comprehensive underground sewerage networks, relying heavily on onsite sanitation systems like septic

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110. (C) Statement I is true, but Statement II is false
Planning for a large river basin like the Narmada requires addressing multiple agro-climatic zones and their specific agricultural needs. However, it cannot ignore the demographic and cultural diversity of the population. Effective regional planning must integrate macro-level water management with micro-level considerations of social and cultural factors to ensure that developmental strategies are both technically sound and socially appropriate.

111. (A) P-3, Q-1, R-2, S-4
Various state planning bodies and schemes focus on different aspects of urban development. The Chief Minister's infrastructure scheme funds core municipal projects, while the Urban Development Company manages large-scale, externally aided water supply works. The Smart Cities Mission targets pan-city and area-based improvements, and RERA regulates the real estate market. Understanding these roles is essential for coordinating regional and urban development efforts.

112. (B) Urban Metro – Mandatory in all villages with a population of 500 people
Infrastructure standards are adjusted for tribal and remote areas to account for their lower population densities and unique challenges. While school and health center norms are more flexible, high-capacity systems like urban metros are not required for small villages. Planners focus on providing appropriate and essential services, such as all-weather roads and primary care, that are suited to the rural and tribal context.

113. (A) Planning multi-modal logistic hubs while establishing feeder road networks
To ensure that large-scale projects like industrial corridors benefit rural areas, planners must create strong local links. Developing logistic hubs and feeder road networks allows rural regions to connect to the corridor's economic opportunities. This inclusive approach integrates local economies into the wider national transport network, creating a more balanced and effective regional development strategy that supports both industrial and rural growth.

114. (A) Both A and R are true and R is the correct explanation of A.
RERA has improved peri-urban development by making layout approvals from the Town and Country Planning Department a mandatory requirement for large projects. This regulation prevents the sale of unapproved plots and ensures that development follows a recognized master plan. By bringing order to the real estate sector, RERA supports planned urban expansion and protects buyers from the risks associated with unauthorized colonies.

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115. (C) It focuses on luxury high-rises with no mandate for EWS housing
The Housing and Infrastructure Development Board is a key agency for executing housing schemes, with a clear mandate to provide affordable housing for all sections of society. It does not focus only on luxury developments and must include provisions for economically weaker and low-income groups. This ensures that the state's housing strategy remains inclusive and addresses the needs of its diverse population.

116. (A) 1, 2, and 4
Integrating climate resilience into planning involves multiple strategies such as rainwater harvesting in dry areas and flood plain zoning along major rivers. Using blue-green infrastructure in cities like Indore also helps manage water and improve the urban environment. These measures are more effective for sustainable growth than clearing forests. These actions ensure that regional development can adapt to and withstand the impacts of climate change.

117. (B) Malwa being industrialized, while Baghelkhand is rugged and forested
Regional analysis shows significant differences between the Malwa and Baghelkhand regions. Malwa is a more developed industrial and agricultural belt, while Baghelkhand is characterized by its rugged terrain, extensive forests, and mineral resources. Understanding these distinctions is fundamental for regional planners to design strategies that leverage each region's unique strengths and address its specific development challenges effectively within the state framework.

most appropriate long-term planning strategy to mitigate this urban flooding?
(A) Increasing the height of all residential plinths in the city.
(B) Constructing deep borewells across roads to inject storm water.
(C) Integrating Sustainable Urban Drainage Systems (SUDS) and preserving natural drainage corridors.
(D) Paving all remaining green spaces to accelerate water flow to the river.

37. Match List-I (Drainage and Sewerage Appurtenances) with List-II (Purpose):
List I: (Drainage and Sewerage Appurtenances)
P. Catch Basin
Q. Drop Manhole
R. Inverted Siphon
S. Outfall structure
List II: (Purpose)
1. Used when a sewer pipe must dip below an obstacle like a railway line
2. Prevents grit and debris from entering the storm sewer
3. Discharges treated wastewater safely into a receiving water body
4. Provided when the difference in elevation between branch and main sewer is more than 600 mm
(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-4, R-1, S-2

38. What is the standard benchmark for the adequacy of sewage treatment capacity in urban areas?
(A) 50%
(B) 80%
(C) 100%
(D) 120%

39. Consider the following statements regarding Faecal Sludge Management (FSM):
Statement I: Faecal sludge contains a higher concentration of biochemical oxygen demand (BOD) and suspended solids compared to standard municipal wastewater.
Statement II: Faecal sludge can be safely disposed of in storm water drains if it is diluted with rainwater.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

40. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Membrane Bioreactor (MBR) technology requires a significantly smaller physical footprint compared to conventional Activated Sludge Process (ASP) plants.
Reason (R): MBR eliminates the need for secondary clarifiers by using membranes to separate the treated effluent from the mixed liquor.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

41. Which of the following statements regarding the causes of urban flooding is INCORRECT?
(A) Unplanned encroachment on natural drainage channels and floodplains restricts water flow.
(B) Solid waste dumping in storm drains drastically reduces their hydraulic capacity.
(C) Poor desilting and maintenance of the existing drainage network prior to the monsoon season exacerbate flooding.
(D) Increased urbanization invariably decreases the surface runoff coefficient of a catchment.

42. The preservation and ecological restoration of the Kahn and Saraswati rivers is crucial for the urban drainage and sewerage master plan of which city?
(A) Indore
(B) Bhopal
(C) Gwalior
(D) Jabalpur

43. Consider the following components of an urban drainage plan:
1. Delineation of micro-watersheds

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tanks that require periodic desludging.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

29. Which of the following statements regarding urban drainage master planning is INCORRECT?
(A) Natural drains should be heavily concretized and fully covered to maximize real estate development potential.
(B) The rational method is commonly used to estimate peak stormwater runoff.
(C) Major drainage systems are designed to handle high-intensity, low-frequency storms to prevent catastrophic flooding.
(D) Minor drainage systems primarily consist of street gutters, roadside drains, and small conduits.

30. Which type of infrastructure does the Madhya Pradesh Urban Development Company (MPUDC) primarily facilitate for urban local bodies?
(A) National Highways and expressways
(B) Heavy industrial manufacturing zones
(C) Water supply, sewerage, and urban infrastructure
(D) Rural agricultural irrigation canals

31. Consider the following factors for the siting of a Sewage Treatment Plant (STP):
1. Topography to allow gravity flow of sewage to the plant
2. Proximity to the ultimate disposal point (e.g., river or water body)
3. Prevailing wind direction to avoid odor nuisance to residential zones
4. Proximity to the city center to reduce land acquisition costs

Which of the above are crucial considerations for the siting of an STP in an urban area?
(A) 1, 2 and 3 only
(B) 2, 3 and 4 only
(C) 1, 3 and 4 only
(D) 1, 2, 3 and 4

32. In stormwater drainage design, what does the term 'Time of Concentration' refer to?
(A) The total continuous duration for which a specific storm event maintains its peak rainfall intensity.
(B) The time taken for subsurface groundwater to reach a point of complete saturation during the monsoon.
(C) The duration required for runoff to travel from the most remote catchment point to the outlet.
(D) The necessary retention time for stormwater stored within a large underground detention or holding tank.

33. An Assistant Town Planner is reviewing the gradients of a proposed sewer network in a flat terrain. To prevent the deposition of solid organic matter inside the pipes, the planner must ensure the design achieves:
(A) Super-critical velocity
(B) Self-cleansing velocity
(C) Non-scouring velocity
(D) Maximum terminal velocity

34. Arrange the following components of the Faecal Sludge Management (FSM) service chain in their correct chronological sequence:
1. Treatment
2. Containment
3. Emptying
4. Safe Reuse/Disposal
5. Transport

(A) 2, 3, 5, 1, 4
(B) 2, 5, 3, 1, 4
(C) 3, 2, 5, 1, 4
(D) 2, 3, 1, 5, 4

35. Identify the correct pair regarding the design parameters of sewerage systems:
(A) Freeboard in sewer pipes : Kept to avoid pressure flow and allow ventilation
(B) Crown of the sewer : The lowest inside level of the pipe
(C) Invert of the sewer : The highest outside level of the pipe
(D) Manhole spacing : Decreases as the diameter of the sewer pipe increases

36. An urban area experiences frequent flash floods during monsoons due to high impervious surface cover. Which of the following is the

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prerequisite regarding the municipal solid waste?
(A) High moisture content
(B) High proportion of inert construction material
(C) High proportion of biodegradable kitchen waste
(D) Minimum Net Calorific Value (typically above 1500 kcal/kg)

51. Consider the following statements regarding solid waste management rules:
Statement I: The rules mandate the segregation of waste into three streams: bio-degradable, non-biodegradable, and domestic hazardous waste at the source level.
Statement II: The rules completely prohibit the integration of informal sector waste pickers into the formal solid waste management system.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

52. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Extended Producer Responsibility (EPR) requires manufacturers to take back their packaging material or end-of-life products for recycling or disposal.
Reason (R): EPR shifts the financial and physical burden of waste management for specific products from local municipal bodies back to the producers.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

53. Which of the following statements regarding Sanitary Landfills is INCORRECT?
(A) Unsegregated, mixed municipal solid waste with high organic content should be prioritized for disposal in sanitary landfills.
(B) They require a low-permeability basal liner to prevent leachate from contaminating groundwater.
(C) They must be equipped with gas collection systems to manage methane emissions.
(D) A daily cover of soil or alternate material is necessary to control odors, litter, and disease vectors.

54. The concept of a 'Regional Sanitary Landfill' or a cluster approach to solid waste management is primarily used to:
(A) Provide independent sanitary landfill facilities for every small administrative unit.
(B) Centralize the collection of all municipal solid waste from across a state into one single mega-city.
(C) Bypass environmental clearance requirements mandated by national rules.
(D) Ensure financial and technical viability for landfill facilities serving clusters of smaller Urban Local Bodies.

55. Consider the following design components:
1. Leachate collection and treatment system
2. Groundwater monitoring wells
3. Landfill gas venting or flaring system
4. High-Density Polyethylene (HDPE) geomembrane liner

Which of the above are essential design components of an engineered Sanitary Landfill?
(A) 1 and 4 only
(B) 1, 2, 3 and 4
(C) 2, 3 and 4 only
(D) 1, 2 and 3 only

56. What does the term "Waste Characterisation" mean in the context of solid waste management?
(A) Designing and optimizing the specific route maps for various types of garbage collection vehicles.
(B) Creating and implementing the branding strategies for various municipal waste collection and awareness programs.
(C) Determining the physical composition, chemical properties, and specific density of municipal solid waste streams.
(D) Assigning specific municipal personnel for waste collection tasks based on their individual operational capacity.

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113. Which of the following statements regarding Optical Fibre Cable (OFC) networks is INCORRECT?
(A) OFC networks form the essential communication backbone for Smart City initiatives like Integrated Command and Control Centres (ICCC).
(B) OFCs are highly susceptible to electromagnetic interference from adjacent high-voltage power lines.
(C) Trenchless technologies like Horizontal Directional Drilling (HDD) are often used to lay OFCs with minimal surface disruption.
(D) They offer significantly higher bandwidth and lower latency compared to traditional copper cables.

114. Under the framework for telecom infrastructure, who is generally the nodal authority for granting Right of Way (RoW) permission within municipal limits?
(A) The District Collector
(B) The Chief Engineer of the State Power Transmission Company
(C) The Director of Town and Country Planning
(D) The Municipal Commissioner / Chief Municipal Officer (CMO)

115. Consider the following technological elements:
1. City-wide Wi-Fi networks
2. CCTV surveillance systems
3. SCADA systems for water and power management
4. Environmental sensors

Which of the above technological elements does an ICT backbone for Smart Cities typically integrate?
(A) 1, 2, 3 and 4
(B) 1 and 2 only
(C) 1, 2 and 4 only
(D) 2, 3 and 4 only

116. In the context of urban infrastructure management, what does SCADA stand for?
(A) Synchronized Centralized Area Data Automation
(B) System Command and Direct Allocation
(C) Supervisory Control and Data Acquisition
(D) Standard Citywide Analysis and Distribution Array

117. An urban planner is designing a 'Utility Corridor' for a greenfield smart city. To maximize long-term sustainability and minimize disruption, how should the utilities be arranged within the corridor?
(A) Wet utilities (water, sewerage) should be separated from dry utilities (power, telecom), preferably using accessible modular ducts.
(B) All utilities should be buried directly in the earth in a random fashion.
(C) Power cables must run directly inside the potable water mains to save space.
(D) Telecom cables should be entirely overhead, and only sewerage should be underground.

118. Which of the following is NOT typically considered a benefit of implementing Smart Grids in urban areas?
(A) Reduction in peak load demand through demand response mechanisms
(B) Easier integration of decentralized renewable energy
(C) Faster fault detection and network restoration
(D) Increase in Aggregate Technical and Commercial (AT&C) losses

119. Identify the correct pair regarding street lighting layout topologies:
(A) Single-sided arrangement : Suitable for very wide, multi-lane divided highways
(B) Staggered arrangement : Luminaires placed on alternate sides of the road, suitable for medium-width roads
(C) Central median arrangement : Used for narrow, one-way alleys
(D) Catenary suspension : Poles mounted directly on pedestrian footpaths

120. During the execution of a Smart City road redevelopment project, frequent conflicts arise between utility departments regarding trenching alignments. What is the most competent urban planning mechanism to resolve this?
(A) Permanently banning all private telecom cables from being laid under municipal road networks.
(B) Allowing the first agency that applies for a permit to monopolize the available Right of Way.
(C) Establishing a Multi-Utility Duct committee

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organic fraction, and low calorific value, making combustion inefficient without auxiliary fuel.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. Which of the following statements regarding Bio-methanation is INCORRECT?
(A) It is an anaerobic process that relies on microorganisms in the absence of oxygen.
(B) It is most suitable for processing dry, inorganic materials like plastic and glass.
(C) The process generates biogas, which is primarily composed of methane and carbon dioxide.
(D) The digestate by-product can be utilized as an organic fertilizer.

66. Which of the following is considered a foundational pillar for a successful urban solid waste management model, such as the one used in Indore?
(A) Dumping all unsegregated municipal waste into a massive open landfill located outside city limits.
(B) Relying entirely on manual street sweeping without the use of specialized mechanized sweepers.
(C) Outsourcing the entirety of municipal governance and operations to a foreign private corporation.
(D) Achieving total source segregation of household waste into wet, dry, and hazardous streams.

67. Consider the following functions:
1. Temporary holding of waste prior to bulk transport
2. Direct generation of electricity from raw waste
3. Compaction of waste to maximize transport efficiency
4. Final permanent disposal of hazardous domestic waste

Which of the above functions do secondary storage and transfer stations perform in an urban waste management system?
(A) 1 and 3 only
(B) 2 and 4 only
(C) 1, 2 and 3 only
(D) 1, 3 and 4 only

68. In the context of solid waste management, what does 'Composting' strictly refer to?
(A) The anaerobic digestion of plastics to produce fuel.
(B) The physical compaction of dry waste into highly dense briquettes.
(C) The controlled aerobic biological decomposition of organic solid waste into a humus-like product.
(D) The chemical neutralization of domestic hazardous waste using lime.

69. A cluster of three small adjacent Municipal Councils generates a total of 25 TPD (Tons Per Day) of solid waste. What is the most appropriate planning approach for their solid waste disposal?
(A) Establishing shared regional processing and landfill facilities to achieve economies of scale.
(B) Having each council construct and operate an independent, high-cost Waste-to-Energy incinerator.
(C) Ensuring each council develops its own independent, engineered sanitary landfill facility locally.
(D) Disposing of all municipal waste in the nearest natural depression or abandoned quarry without treatment.

70. Which of the following is NOT classified as Domestic Hazardous Waste?
(A) Discarded paint drums
(B) Used batteries
(C) Expired medicines
(D) Vegetable and fruit peels

71. Identify the correct pair regarding the processing of specific segregated waste streams:
(A) Wet waste : Refuse Derived Fuel (RDF) facility
(B) Dry recyclable waste : Material Recovery Facility (MRF)
(C) Domestic hazardous waste : Vermicomposting pits
(D) C&D waste : Bio-methanation plant

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72. An Assistant Town Planner is drafting a closure plan for an exhausted municipal dumpsite. Which of the following actions demonstrates the correct approach for scientific closure?
(A) Covering the site lightly with loose soil and constructing a multi-story housing complex over the area.
(B) Flooding the entire dumpsite with water to accelerate the natural rotting of organic waste materials.
(C) Utilizing biomining for legacy waste recovery followed by scientific capping and gas venting for inerts.
(D) Setting the legacy waste mounds on fire to quickly clear the land for new development projects.

73. Match List-I (Urban Sanitation Designations) with List-II (Core Requirement):
List I: (Urban Sanitation Designations)
P. ODF
Q. ODF+
R. ODF++
S. Water+
List II: (Core Requirement)
1. No visible faeces found in the environment and all households use safe technology options
2. Focuses on safe containment, processing, and disposal of faecal sludge and septage
3. Focuses on safe collection, treatment, and reuse of both blackwater and greywater
4. Sustaining ODF status plus ensuring functionality and maintenance of community/public toilets
(A) P-4, Q-2, R-1, S-3
(B) P-1, Q-2, R-4, S-3
(C) P-2, Q-3, R-4, S-1
(D) P-1, Q-4, R-2, S-3

74. What is the target year for achieving the goal of making all cities 'Garbage Free' under national urban sanitation objectives?
(A) 2024
(B) 2026
(C) 2030
(D) 2035

75. Consider the following statements regarding the Garbage Free Cities (GFC) Star Rating system:
Statement I: The GFC Star Rating is an independent certification designed to holistically evaluate the solid waste management performance of a city.
Statement II: A city must be certified as at least ODF+ to be eligible for a 3-star GFC rating.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

76. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Information, Education, and Communication (IEC) strategies account for a significant portion of national urban sanitation program budgets.
Reason (R): The primary challenge of urban sanitation is purely infrastructural, requiring massive construction of toilets without any need to address socio-cultural habits.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

77. Which of the following statements is INCORRECT regarding the funding pattern and implementation of national urban sanitation missions?
(A) The entire 100% funding for all infrastructure projects is borne exclusively by the Central Government.
(B) It is a Centrally Sponsored Scheme with a defined cost-sharing ratio between the Centre and States.
(C) For normal states, the funding pattern is generally shared at a ratio like 60:40 (Centre:State).
(D) Urban Local Bodies are expected to contribute their share and leverage private sector participation.

78. Indore achieved the distinction of being India's first "Water Plus" city. What does this certification primarily indicate?

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(A) Maintaining the highest per capita fresh water supply levels compared to other cities.
(B) Providing free high-quality drinking water ATMs at every street corner for the general public.
(C) Treating all municipal wastewater to satisfactory environmental standards before its final discharge.
(D) Achieving 100% geographic coverage of piped drinking water supply networks for all city residents.

79. Consider the following objectives:
1. Remediation of all legacy dumpsites
2. Making all cities ODF++
3. Assuring 100% door-to-door segregation of solid waste
4. Replacing all urban transportation with electric vehicles

Which of the above are key objectives for achieving 'Garbage Free' status in cities?
(A) 1, 2 and 3 only
(B) 2, 3 and 4 only
(C) 1, 3 and 4 only
(D) 1, 2, 3 and 4

80. What defines an 'Individual Household Latrine' (IHHL)?
(A) A toilet shared by a group of households in a slum community.
(B) A toilet facility available for the floating population in markets.
(C) A dedicated toilet facility provided within the premises of a single dwelling unit.
(D) A mobile toilet van deployed during festivals.

81. Which of the following application-level interventions is a prerequisite for a city to achieve a 5-star 'Garbage Free' rating?
(A) Ensuring 100% visual cleanliness in commercial business districts while ignoring residential sectors.
(B) Achieving 100% source segregation and mechanized sweeping with zero unprocessed waste sent to landfills.
(C) Implementing a mandatory fine for littering without developing local enforcement capabilities.
(D) Completely banning the use of all types of plastic materials within the defined municipal city limits.

82. Arrange the following sanitation programs launched in India in chronological order of their inception:
1. Swachh Bharat Mission (SBM)
2. Total Sanitation Campaign (TSC)
3. Central Rural Sanitation Programme (CRSP)
4. Nirmal Bharat Abhiyan (NBA)

(A) 3, 2, 4, 1
(B) 2, 3, 1, 4
(C) 3, 4, 2, 1
(D) 4, 3, 2, 1

83. Identify the correct pair regarding the convergence of national urban missions:
(A) Urban Sanitation and Water Missions : Synergy in achieving universal water supply and sewerage targets
(B) Sanitation and Smart Cities Missions : Exclusive focus on rural agricultural development
(C) Sanitation and Housing Missions : Provision of high-speed optical fiber internet to households
(D) Heritage and Sanitation Missions : Modernization of urban transport systems

84. In planning sanitation infrastructure for a densely populated informal settlement where households lack the space for Individual Household Latrines (IHHL), what is the most competent infrastructural solution?
(A) Constructing pay-and-use public toilets located exclusively on the main arterial roads of the city.
(B) Supplying chemical mobile toilets as a permanent sanitation solution for all households in the area.
(C) Constructing community toilets with adequate water and lighting within the informal settlement.
(D) Mandating households to share the nearest commercial mall's restrooms for their daily needs.

85. Match List-I (Urban Monitoring Tools) with List-II (Description):
List I: (Urban Monitoring Tools)
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multiple utility services such as electricity cables, telecom OFCs, and water pipes in a single underground trench or tunnel.
Statement II: The implementation of common utility ducts increases the frequency of repeated road excavations by different utility agencies.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

100. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Underground power cabling is increasingly preferred over overhead lines in dense urban areas and smart cities.
Reason (R): Underground cables are immune to extreme weather events like cyclones, improve urban aesthetics, and free up the Right of Way (RoW) above ground.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

101. Which of the following statements regarding Right of Way (RoW) management for telecom infrastructure is INCORRECT?
(A) Local bodies can deny permission arbitrarily without citing specific reasons.
(B) Rules streamline the process for telecom service providers to lay Optical Fibre Cables (OFC) on public property.
(C) Urban Local Bodies levy a restoration charge when public roads are trenched for laying cables.
(D) Centralized single-window clearance portals have been established to expedite RoW approvals.

102. Which historical city in Madhya Pradesh was inaugurated as India's first "Solar City"?
(A) Khajuraho
(B) Mandu
(C) Ujjain
(D) Sanchi

103. Consider the following features of a power grid:
1. Two-way communication between the utility and the consumer
2. Automated outage detection and self-healing capabilities
3. Exclusive reliance on fossil fuel power generation
4. Integration of distributed energy resources like rooftop solar

Which of the above are distinct features of a 'Smart Grid'?
(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

104. In the context of urban power distribution, what does 'Smart Metering' refer to?
(A) Electromechanical meters with rotating aluminum discs.
(B) Meters that automatically disconnect power during monsoon season.
(C) Advanced meters that record consumption at high frequency and communicate the data back to the utility for monitoring and billing.
(D) Meters that operate exclusively on solar power and cannot measure grid power.

105. An Assistant Town Planner is tasked with reducing the energy footprint of municipal street lighting. What is the most cost-effective and energy-efficient application-level intervention?
(A) Replacing all luminaires with High-Pressure Sodium Vapor (HPSV) lamps.
(B) Keeping street lights operational only for 2 hours per night.
(C) Converting all street lighting posts to rely solely on battery storage without solar panels.
(D) Retrofitting all existing street lights with Light Emitting Diode (LED) fixtures combined with astronomical timers.

106. Arrange the following generations of mobile telecom infrastructure in chronological order of their widespread deployment in India:
1. 3G (UMTS/HSPA)
2. 5G (NR)

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92. What differentiates a 'Community Toilet' (CT) from a 'Public Toilet' (PT) in urban planning parlance?
(A) CTs are operated as strictly paid facilities, whereas PTs are provided to citizens entirely free of cost.
(B) CTs serve residential communities lacking IHHLs, while PTs serve floating populations in commercial zones.
(C) CTs only feature dedicated bathing facilities, while PTs exclusively feature standard latrine units.
(D) CTs are managed by large private corporations, whereas PTs are managed by local Self-Help Groups.

93. An urban planner needs to execute an information campaign to boost source segregation in a municipality with a high literacy rate but low compliance. What is the most effective approach?
(A) Using targeted social media campaigns, school sensitization programs, and gamified community competitions.
(B) Distributing text-heavy manuals strictly in English.
(C) Displaying a single hoarding at the city entrance.
(D) Stopping waste collection services until compliance is achieved.

94. Which of the following is NOT an assessment parameter for a city under standard urban cleanliness survey methodologies?
(A) Service Level Progress (SLP) focusing on segregated collection and processing
(B) Citizen Voice and feedback
(C) Number of large-scale heavy industries within city limits
(D) Certification (GFC Star Rating and ODF status)

95. Identify the correct pair regarding national urban sanitation capacity building initiatives:
(A) Sanitation worker safety challenge : Promoting open drains in urban slums
(B) National cleanliness league : A financial audit of funds by the CAG
(C) Sanitation dedicated fund : A fund dedicated to building airports in cleanest cities
(D) Public mobilization campaign : A cleanliness campaign involving mass public participation

96. A city has been declared ODF but faces issues with open defecation relapse near railway tracks. What is the most appropriate competency-based intervention to sustain ODF status?
(A) Constructing a tall, impenetrable concrete wall along the entire stretch of the railway tracks.
(B) Relocating the main city railway station to the far outskirts to prevent public access to the tracks.
(C) Using vigilance committees, ensuring community toilet functionality, and conducting behavior change workshops.
(D) Increasing the annual property tax for all households residing in proximity to the railway tracks.

97. Match List-I (Urban Power Distribution Components) with List-II (Function):
List I: (Urban Power Distribution Components)
P. Transmission Substation
Q. Distribution Transformer
R. Feeder
S. Service Connection
List II: (Function)
1. Steps down extra-high voltage to lower transmission voltages
2. Steps down voltage to consumer utilization levels (e.g., 415V/240V)
3. Carries power from a substation to local distribution transformers
4. The final physical cable connecting the utility's network to the consumer's meter
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-1, Q-3, R-2, S-4
(D) P-3, Q-2, R-1, S-4

98. In India, what is the standard voltage level for primary urban power distribution networks?
(A) 220 kV or 132 kV
(B) 33 kV or 11 kV
(C) 415 V
(D) 240 V

99. Consider the following statements regarding Common Utility Ducts:
Statement I: A common utility duct houses

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Q. Swachhata App
R. SBM MIS (Management Information System)
S. Swachh Manch

List II: (Description)
1. A citizen grievance redressal mobile application for solid waste complaints
2. A large-scale urban sanitation and cleanliness survey
3. A web-based platform for volunteers to upload community participation events
4. A dashboard for tracking physical and financial progress of mission targets

(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-3, R-4, S-1

86. What is the standard financial incentive typically provided to eligible households for the construction of an Individual Household Latrine (IHHL) under national urban sanitation programs?
(A) ₹ 2,000
(B) ₹ 4,000
(C) ₹ 12,000
(D) ₹ 25,000

87. Consider the following statements regarding the focus areas of national sanitation programs:
Statement I: Urban sanitation missions primarily focus on solid waste management, wastewater treatment, and making cities ODF.
Statement II: Rural sanitation missions focus largely on improving the quality of life in rural areas by promoting hygiene and managing solid/liquid waste.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

88. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Achieving ODF++ certification requires robust Faecal Sludge Treatment Plants (FSTP) or Sewage Treatment Plants (STP).
Reason (R): ODF++ mandates that all faecal sludge and sewage collected is safely conveyed and treated, with zero discharge of untreated sewage into water bodies.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

89. Which of the following statements regarding the role of informal sectors in urban sanitation is INCORRECT?
(A) Guidelines encourage the formalization and integration of ragpickers and waste workers.
(B) Occupational safety gear and health camps for sanitation workers are key priorities.
(C) Community engagement through volunteers acts as a catalyst for behavior change.
(D) Self-Help Groups (SHGs) are barred from participating in community toilet management to ensure technical efficiency.

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90. Which city in Madhya Pradesh, apart from Indore, has frequently ranked among the top cleanest cities in national surveys?
(A) Bhopal
(B) Rewa
(C) Satna
(D) Sagar

91. Consider the following criteria:
1. At any point in the day, not a single person is found defecating in the open.
2. All community and public toilets are functional and well-maintained.
3. 100% of the city's wastewater is recycled for potable use.
4. Essential amenities like water, soap, and lighting are available in public toilets.

Which of the above criteria define an ODF+ (Open Defecation Free Plus) city?
(A) 1, 2 and 3 only
(B) 1, 2 and 4 only
(C) 2, 3 and 4 only
(D) 1, 3 and 4 only

3. 2G (GSM/EDGE)
4. 4G (LTE)

(A) 3, 1, 4, 2
(B) 1, 3, 4, 2
(C) 3, 4, 1, 2
(D) 1, 4, 3, 2

107. Identify the correct pair regarding urban renewable energy systems:
(A) Net Metering : A mechanism where consumers are billed twice for solar generation
(B) Solar Park : Centralized, utility-scale power generation over large tracts of land
(C) Decentralized Renewable Energy (DRE) : Large thermal power plants serving megacities
(D) Biomass Gasifier : Utilizing kinetic wind energy to generate electricity

108. The upcoming 5G network rollout requires dense deployment of micro-cells. How should a Town Planner competently accommodate this in urban streetscape design?
(A) By constructing 50-meter-tall lattice towers every 100 meters on urban footpaths.
(B) By integrating small cell antennas onto existing street furniture like smart poles, streetlights, and bus shelters.
(C) By banning 5G infrastructure in all urban areas to preserve aesthetics.
(D) By laying overhead fiber cables across all major intersections.

109. Match List-I (Telecom Infrastructure Components) with List-II (Characteristics):
List I: (Telecom Infrastructure Components)
P. Optical Fibre Cable (OFC)
Q. Cell Tower (Macrocell)
R. Small Cell
S. Data Centre
List II: (Characteristics)
1. Facility to house computer systems, telecommunications, and storage systems
2. Provides wide-area coverage and typically features antennas mounted on tall masts or rooftops
3. Low-powered radio access node used to provide dense coverage in localized areas
4. Medium used to transmit data as pulses of light providing immense bandwidth

(A) P-4, Q-2, R-3, S-1
(B) P-4, Q-3, R-2, S-1
(C) P-1, Q-2, R-3, S-4
(D) P-3, Q-1, R-4, S-2

110. For planning urban arterial roads, the standard spacing between street light poles generally recommended to maintain uniform illumination is:
(A) 5 to 10 meters
(B) 30 to 50 meters
(C) 100 to 120 meters
(D) 200 to 250 meters

111. Consider the following statements regarding the integration of solar energy in Development Plans:
Statement I: Development Control Regulations (DCRs) often mandate the provision of solar water heating systems for buildings exceeding a certain plot area or usage type.
Statement II: Mandating solar rooftop PV limits a building's ability to connect to the central power grid.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

112. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): National schemes for the power distribution sector aim to improve the operational efficiencies and financial sustainability of DISCOMs.
Reason (R): High Aggregate Technical and Commercial (AT&C) losses severely impact the capacity of utility providers to maintain and upgrade urban power infrastructure.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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57. An urban local body (ULB) is planning to optimize its waste transportation logistics. The disposal site is located 30 kilometers away from the city boundaries. What is the most appropriate infrastructure intervention to reduce haulage costs?
(A) Decentralized composting pits
(B) Replacing compactor trucks with smaller auto-tippers for the entire journey
(C) Banning door-to-door collection entirely
(D) Establishment of intermediate Secondary Transfer Stations

58. Arrange the following steps of the Integrated Solid Waste Management hierarchy in chronological order from most preferred (top) to least preferred (bottom):
1. Energy Recovery
2. Source Reduction and Minimization
3. Safe Disposal (Landfilling)
4. Recycling and Reuse
(A) 2, 4, 1, 3
(B) 4, 2, 1, 3
(C) 2, 1, 4, 3
(D) 1, 4, 2, 3

59. Identify the correct pair regarding Construction and Demolition (C&D) waste management:
(A) C&D waste composition : Primarily organic and putrescible matter
(B) Recycled C&D products : Paving blocks, kerbstones, and aggregates
(C) C&D Waste Regulation : Allows mixing C&D waste with general MSW
(D) Treatment technology : Biomethanation and aerobic composting

60. An Assistant Town Planner is designing a livelihood integration strategy for informal waste workers in a municipality. Which approach is most socially inclusive?
(A) Prohibiting informal workers from accessing waste processing sites under the threat of strict legal penalties.
(B) Organizing workers into cooperatives for formal employment within Material Recovery Facilities.
(C) Relocating informal worker communities to the far periphery of the city away from any residential zones.
(D) Mandating that all informal workers must exclusively handle the collection of hazardous biomedical waste.

61. Match List-I (Waste Streams) with List-II (Standard Bin Color Coding):
List I: (Waste Streams)
P. Bio-degradable (Wet) Waste
Q. Non-biodegradable (Dry) Waste
R. Domestic Hazardous Waste
List II: (Standard Bin Color Coding)
1. Black Bin / Box
2. Green Bin
3. Blue Bin
(A) P-2, Q-3, R-1
(B) P-3, Q-2, R-1
(C) P-2, Q-1, R-3
(D) P-1, Q-2, R-3

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62. As per standard siting criteria for sanitary landfills, what is the minimum prescribed distance/buffer zone requirement from a river or water body?
(A) 10 meters
(B) 50 meters
(C) 100 meters
(D) 500 meters

63. Consider the following statements regarding municipal solid waste collection:
Statement I: Door-to-door collection ensures higher rates of source segregation compared to communal bin systems.
Statement II: The primary collection vehicle directly transports waste to the regional sanitary landfill without secondary transfer.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

64. Read the following Assertion (A) and Reason (R) and choose the correct option:
Assertion (A): Waste-to-Energy (WtE) mass incineration plants have faced operational challenges in many cities in developing regions.
Reason (R): Municipal solid waste in these regions typically has high moisture content, high

using GIS-based mapping to coordinate all spatial alignments.

(D) Directing all utility agencies to dig independent trenches simultaneously to finish the work quickly.

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providing a sustainable way to recover energy and produce organic fertilizer.

66. (D) Achieving total source segregation of household waste into wet, dry, and hazardous streams.
Successful urban solid waste management models, such as the one implemented in Indore, are built on the foundational pillar of total source segregation. By separating waste into wet, dry, and hazardous categories at the household level, cities can maximize processing efficiency and resource recovery. This disciplined approach ensures that very little waste remains unprocessed, leading to cleaner cities and sustainable operations.

67. (A) 1 and 3 only
Secondary storage and transfer stations serve the critical function of temporarily holding municipal waste before it is transported in bulk to processing facilities. These stations often utilize compaction equipment to increase waste density, which significantly improves transport efficiency and reduces haulage costs. While they are vital for logistics, they are not intended for energy generation or the final permanent disposal of hazardous materials.

68. (C) The controlled aerobic biological decomposition of organic solid waste into a humus-like product.
Composting refers to the biological process where organic solid waste undergoes controlled aerobic decomposition by microorganisms. This process transforms food scraps and garden waste into a nutrient-rich, humus-like product that can be used as a soil conditioner. Unlike anaerobic methods, composting requires oxygen and is a sustainable way to divert organic materials from landfills while producing a valuable agricultural resource.

69. (A) Establishing shared regional processing and landfill facilities to achieve economies of scale.
For small municipal councils with limited waste generation, the most appropriate planning strategy is to establish shared regional facilities. This collaborative approach allows multiple local bodies to benefit from economies of scale, making advanced processing and engineered landfills more affordable. By sharing the technical and financial costs, these councils can ensure compliance with environmental standards and provide more efficient waste services.

70. (D) Vegetable and fruit peels
Domestic hazardous waste includes discarded items that contain toxic or harmful substances, such as paint drums, used batteries, and expired medicines. Vegetable and fruit peels are classified as biodegradable wet waste and should be diverted for composting or biomethanation. Properly identifying these different streams is crucial for ensuring that hazardous materials are handled safely and do not contaminate the organic recycling process.

71. (B) Dry recyclable waste : Material Recovery Facility (MRF)
Segregated dry recyclable waste is typically sent to a material recovery facility, where it is sorted and prepared for recycling. Other waste streams require different specialized processes, such as vermicomposting for wet waste or dedicated treatment for hazardous materials. Utilizing these specific facilities ensures that each type of waste is managed in the most efficient and environmentally sustainable manner possible.

72. (C) Utilizing biomining for legacy waste recovery followed by scientific capping and gas venting for inerts.
Scientific closure of an exhausted municipal dumpsite involves biomining to recover and process legacy waste, which helps reclaim valuable land. The remaining inert materials are then stabilized using scientific capping and equipped with gas venting systems to prevent hazardous emissions. This approach is essential for mitigating environmental risks and transforming former dumpsites into safe areas that can be repurposed for public use.

73. (D) P-1, Q-4, R-2, S-3
Urban sanitation designations reflect progressive milestones, starting with open defecation free status where all households use safe technology. The subsequent levels focus on sustaining this status and ensuring the safe management of faecal sludge and septage. The highest certifications, such as Water Plus, require cities to treat and reuse both blackwater and greywater, promoting a holistic and highly sustainable approach to urban sanitation.

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Understanding these rates helps planners design effective green infrastructure and estimate the water requirements for maintaining urban parks and city vegetation.

9. (D) Grid iron system
The grid iron system is ideal for well-planned urban sectors featuring a rectangular street pattern and interconnected roads. By providing multiple paths for water flow, it minimizes stagnation and ensures relatively uniform pressure throughout the network. This layout facilitates easier maintenance and allows for service continuity during repairs, making it a highly efficient choice for modern and residential developments.

10. (A) 2, 4, 5, 1, 3
Conventional surface water treatment begins with aeration to remove dissolved gases and oxidize metals. This is followed by coagulation and flocculation to aggregate impurities, which then settle during the sedimentation phase. Filtration subsequently removes finer suspended particles from the water. Finally, disinfection is applied as a terminal step to eliminate harmful pathogens, ensuring the treated water is safe.

11. (B) Extent of Non-Revenue Water (NRW) : 20% target
Standard service level benchmarks establish specific performance targets for urban water utilities to improve efficiency. While the target for water supply coverage and continuity is often set much higher, the benchmark for non-revenue water is capped at twenty percent. Achieving this goal requires rigorous leak detection, accurate metering, and effective management of unauthorized connections to minimize financial and physical losses.

12. (B) Implementing District Metered Area (DMA) based hydraulic auditing and leakage mapping protocols.
Transitioning to a continuous water supply requires robust hydraulic management and leak control to prevent excessive waste. Implementing district metered areas allows utilities to monitor flow and pressure in small, manageable zones, facilitating precise leakage mapping. This competency-based intervention is crucial for conducting accurate water audits and ensuring the system can maintain pressurized flow without significant non-revenue water losses.

13. (A) P-4, Q-1, R-3, S-2
Sluice valves are utilized to regulate or stop water flow within pipelines, while air relief valves release accumulated air at summits to prevent blockages. Scour valves are strategically placed at low points to drain and clean the system. Furthermore, check valves ensure that water flows in only one direction, preventing backflow that could damage pumps or contaminate the system.

14. (C) Installation of rooftop rainwater harvesting systems
Environmental norms mandate the installation of rooftop rainwater harvesting systems for new housing developments to combat declining groundwater levels. This practice involves capturing and storing rain from rooftops or redirecting it to recharge underground aquifers. Such systems are vital for reducing the burden on municipal water supplies and improving urban water security by utilizing local precipitation effectively within the premises.

15. (C) Statement I is correct but Statement II is incorrect.
Dual pipe systems incorporate two distinct networks to distribute potable water and non-potable recycled water separately. This infrastructure design significantly reduces the demand for primary freshwater sources by allowing treated greywater to be used for non-essential tasks like toilet flushing or gardening. By preventing the mixing of water types, these systems promote sustainable resource management and enhance urban water efficiency.

16. (A) Both A and R are true and R is the correct explanation of A.
Elevated storage reservoirs are vital components in flat terrains where natural elevation cannot provide sufficient gravity-based pressure. These tanks store treated water and provide the necessary gravitational head required to maintain adequate residual pressure at consumer taps. This ensures a consistent supply during peak demand hours when the rate of water consumption exceeds the average pumping capacity of the system.

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essential for implementing a modern municipal waste management system.

50. (D) Minimum Net Calorific Value (typically above 1500 kcal/kg)
Establishing a viable waste-to-energy incineration plant requires municipal solid waste to possess a minimum net calorific value to ensure efficient combustion. High moisture or biodegradable content can hinder the burning process, making the facility less effective. Planners must assess the waste's energy potential to determine the feasibility of these plants, which are designed to recover energy during the disposal process.

51. (C) Statement I is correct but Statement II is incorrect.
Solid waste management rules mandate the source-level segregation of waste into biodegradable, non-biodegradable, and domestic hazardous streams to facilitate better processing. Contrary to prohibition, these rules actually encourage the integration of informal sector waste pickers into the formal management system to improve their livelihoods and system efficiency. Proper segregation and social inclusion are considered fundamental pillars for achieving sustainable urban sanitation.

52. (A) Both A and R are true and R is the correct explanation of A.
Extended producer responsibility is a policy approach that makes manufacturers responsible for the entire lifecycle of their products, especially packaging and end-of-life disposal. By shifting the financial and logistical burden away from municipal bodies, it incentivizes producers to design more recyclable products. This strategy helps reduce the total volume of waste that local authorities must manage and promotes a circular economy.

53. (A) Unsegregated, mixed municipal solid waste with high organic content should be prioritized for disposal in sanitary landfills.
Sanitary landfills are engineered facilities designed primarily for the final disposal of non-recyclable and inert residual waste, rather than unsegregated organic matter. High organic content should be diverted to composting or biomethanation facilities to minimize leachate and methane production. Proper landfill design includes basal liners to protect groundwater and gas collection systems to manage emissions and maintain overall environmental safety.

54. (D) Ensure financial and technical viability for landfill facilities serving clusters of smaller Urban Local Bodies.
Regional sanitary landfills utilize a cluster approach to serve multiple small urban local bodies, providing a shared solution that achieves economies of scale. This strategy makes engineered disposal facilities more financially and technically viable for smaller towns that might struggle to operate independent sites. By centralizing disposal, authorities can ensure better compliance with environmental standards and optimize the management of residual waste.

55. (B) 1, 2, 3 and 4
An engineered sanitary landfill must incorporate several critical components, including leachate collection and treatment systems to prevent groundwater contamination. Additionally, groundwater monitoring wells and gas venting or flaring systems are essential for long-term environmental safety. The use of high-density polyethylene geomembrane liners provides a secure barrier, ensuring that residual waste is disposed of in a manner that protects the surrounding ecological ecosystem.

56. (C) Determining the physical composition, chemical properties, and specific density of municipal solid waste streams.
Waste characterization is a vital process that involves analyzing the physical and chemical properties of municipal waste streams. By understanding the composition and density of the waste, planners can select the most appropriate processing technologies and optimize collection logistics. This data-driven approach is essential for designing effective recycling, composting, and energy recovery programs that align with the city's specific waste needs.

57. (D) Establishment of intermediate Secondary Transfer Stations
For cities where disposal sites are located far from urban boundaries, establishing secondary transfer stations is the most appropriate infrastructure intervention. These stations allow small collection vehicles to unload their

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settling in a single tank. Membrane bioreactors integrate advanced filtration modules directly into the biological process for high-quality effluent. Conversely, waste stabilization ponds rely on natural solar and biological processes but require extensive land area, making them suitable for less congested regions.

26. (C) 80-85%
In the design of sewerage networks, engineers typically estimate that approximately eighty to eighty-five percent of the per capita water supplied returns as sewage. This factor accounts for water consumed or lost through gardening, evaporation, and other domestic activities. Accurate estimation of this return flow is essential for sizing sewer pipes and treatment plants to prevent overflows and ensure environmental safety.

27. (C) Statement I is correct but Statement II is incorrect.
Combined sewerage systems are designed to carry both domestic wastewater and stormwater runoff within a single pipeline. While this reduces the number of pipes required, it necessitates much larger diameters and significantly higher capital investment to handle peak flow during rain events. In contrast, separate systems use smaller pipes for sewage, keeping it isolated from the variable volumes of storm drainage.

28. (A) Both A and R are true and R is the correct explanation of A.
Peri-urban areas and small towns often lack the financial and technical resources to install comprehensive underground sewerage networks. Consequently, these regions rely heavily on onsite sanitation systems like septic tanks, which necessitate an organized faecal sludge management strategy. Regular desludging and safe treatment of this waste are critical to prevent groundwater contamination and protect public health in these growing communities.

29. (A) Natural drains should be heavily concretized and fully covered to maximize real estate development potential.
Modern urban drainage master planning emphasizes the preservation of natural drains to maintain their ecological function and hydraulic capacity. Concretizing or covering these channels restricts water flow and increases the risk of flooding during heavy rainfall. Effective strategies utilize tools like the rational method for runoff estimation and prioritize sustainable systems that integrate street gutters with major outfalls and natural drainage.

30. (C) Water supply, sewerage, and urban infrastructure
The Madhya Pradesh Urban Development Company serves as a specialized agency dedicated to facilitating the implementation of urban infrastructure projects across the state. Its primary focus includes the development and management of comprehensive water supply schemes, modern sewerage networks, and other essential municipal services. By supporting local bodies, the company aims to improve the quality of life and environmental standards in cities.

31. (A) 1, 2 and 3 only
Siting a sewage treatment plant requires careful consideration of topography to facilitate gravity-based flow, which reduces pumping costs. Proximity to an ultimate disposal point and understanding prevailing wind directions are also crucial to minimize infrastructure needs and prevent odor nuisance for residents. While city center proximity might reduce some transport distances, it is generally avoided due to high land costs and potential nuisance.

32. (C) The duration required for runoff to travel from the most remote catchment point to the outlet.
The time of concentration is a fundamental parameter in stormwater drainage design, representing the travel time for water from the furthest point in a catchment to reach the outlet. This duration is critical for determining the peak rainfall intensity used in runoff calculations. Accurate estimation of this time ensures that the drainage network is sized correctly to handle maximum flow events.

33. (B) Self-cleansing velocity
Designing sewer pipes with a proper gradient is essential to achieve a self-cleansing velocity, which prevents the settlement of organic and inorganic solids. This minimum flow speed ensures that any deposited matter is naturally scoured and transported to the treatment facility.

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ANSWERS

1. (B) P-3, Q-4, R-1, S-2
Coagulation utilizes chemical additives to destabilize fine colloidal particles, allowing them to form larger flocs. Subsequent filtration removes remaining suspended matter by passing water through a porous medium. Disinfection is essential for destroying pathogenic microorganisms to ensure safety. Elevated Storage Reservoirs then equalize distribution pressure and balance varying water demands throughout the day for the urban population.

2. (C) 135 lpcd
National engineering standards prescribe a per capita water supply of 135 liters per day for cities equipped with piped water and sewerage systems. This quantity accounts for diverse domestic needs, including drinking, cooking, bathing, and flushing. Establishing such benchmarks ensures adequate infrastructure planning to maintain public hygiene and fulfill the daily requirements of modern and dense urban populations.

3. (C) Statement I is correct but Statement II is incorrect.
Dead-end distribution systems are often preferred for older, irregularly developed towns due to their simplicity and low cost. However, these networks suffer from significant drawbacks, such as water stagnation at tail ends, which promotes bacterial growth and degrades quality. Unlike grid or ring systems, they do not facilitate continuous water circulation, leading to potential health risks for consumers.

4. (A) Both A and R are true and R is the correct explanation of A.
Providing a continuous twenty-four-hour water supply maintains constant positive pressure within the distribution network. This hydraulic pressure effectively prevents the ingress of contaminated groundwater or sewage through minor leaks or joints during periods of low usage. Consequently, this system significantly lowers the risk of waterborne diseases, ensuring a much safer and more reliable supply for all urban residents.

5. (A) It includes billed authorized consumption which forms the primary revenue stream for the utility.
Non-revenue water represents the difference between the volume of water put into a system and the volume billed to customers. It encompasses physical leakages, commercial losses from unauthorized connections, and unbilled authorized usage such as firefighting. Conversely, billed authorized consumption generates the essential revenue required for a utility to operate effectively and maintain its vast and complex infrastructure network.

6. (D) Preparation of a City Water Balance Plan (CWBP)
A City Water Balance Plan serves as a foundational reform to ensure long-term water security by quantifying all available resources and demands. This comprehensive strategic document helps municipal bodies identify gaps in supply, manage wastewater reuse, and plan for sustainable source augmentation. It is a mandatory requirement for cities to align with national urban development and modern sanitation missions.

7. (B) 1, 2, 3 and 4
Accurate quantification of net water availability requires evaluating precipitation, surface runoff, evapotranspiration, and groundwater recharge. These interconnected components form the basis of a municipal water budget, allowing planners to understand the total hydrological cycle within a watershed. Analyzing all these factors is critical for managing sustainable water extraction and ensuring sufficient supply to meet the needs of residents.

8. (C) The total transfer of moisture to the atmosphere through soil evaporation and plant transpiration.
Evapotranspiration represents the combined process of water returning to the atmosphere from the earth's surface and through vegetation. In urban hydrology, this factor is significant for determining the water balance and managing stormwater runoff across various land covers.

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42. (A) Indore
The ecological restoration of the Kahn and Saraswati rivers is a focal point of the urban drainage and sanitation strategy for Indore. These water bodies are being rejuvenated to improve the city's overall environmental health and manage urban runoff more effectively. Efforts include preventing the discharge of untreated sewage and restoring the natural flow of these critical and local drainage channels.

43. (B) 1, 2 and 4 only
A comprehensive storm water drainage master plan typically includes the delineation of micro-watersheds, capacity assessments of existing outfalls, and the identification of waterlogging hotspots. These components are essential for understanding the movement of runoff and designing infrastructure to prevent flooding. While potable water zones are part of a separate supply plan, they are not a primary focus of stormwater drainage management.

44. (B) A system carrying sewage and early runoff together, while routing major street stormwater through a separate network.
A partially separate sewerage system is designed to handle sewage along with the initial, often highly contaminated, portion of stormwater runoff in the same pipes. During heavy rainfall, major storm drainage is directed through a completely separate network of channels or conduits. This approach aims to reduce the pollution of receiving water bodies while avoiding the massive pipe sizes required for combined systems.

45. (A) Sequencing Batch Reactor (SBR)
The sequencing batch reactor is highly suitable for congested urban areas because it combines multiple treatment steps within a single tank, minimizing land requirements. This technology is also very effective at removing nutrients like nitrogen and phosphorus, ensuring the effluent meets stringent regulatory standards. Its operational flexibility allows it to handle varying sewage flows efficiently, making it a modern solution for urban sanitation.

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46. (C) Direct injection into unconfined aquifers used for drinking water
Standard engineering and environmental norms strictly prohibit the direct injection of treated sewage effluent into unconfined aquifers that serve as drinking water sources. Such practices pose severe risks of groundwater contamination and public health hazards. Acceptable methods of reuse include irrigation for urban landscapes, industrial cooling water, and controlled discharge into surface water bodies that meet specific biological quality limits.

47. (B) Preliminary Treatment : Removal of rags, grit, and large floating objects
Preliminary treatment serves as the initial stage in wastewater processing, focusing on the mechanical removal of large objects like rags and grit. This protects downstream equipment from damage and clogging. Primary treatment typically involves the gravitational settling of heavy solids, while secondary treatment uses biological processes to degrade organic matter. Tertiary treatment applies advanced methods for nutrient removal and additional final purification.

48. (C) Establishing a scheduled Faecal Sludge Management system coupled with a localized treatment plant facility.
For unsewered towns, a scheduled faecal sludge management system provides a cost-effective and environmentally compliant alternative to expensive underground networks. This strategy involves the regular emptying of onsite sanitation systems and the safe transport of waste to a localized treatment facility. Such interventions effectively prevent environmental degradation and protect groundwater resources, ensuring a higher standard of public hygiene for the local town.

49. (B) P-3, Q-1, R-2, S-4
Vermicomposting utilizes earthworms to decompose organic matter, while biomethanation relies on anaerobic digestion to produce biogas and manure. Refuse-derived fuel involves processing high-calorific waste into pellets suitable for industrial use. Engineered sanitary landfills provide the final disposal solution for inert and residual waste that cannot be further processed. These diverse technologies are

17. (B) Groundwater recharged through urban road runoff does not require any filtration or desilting pit.
Urban road runoff often contains significant amounts of silt, oil, and debris that can clog recharge structures and contaminate aquifers. Therefore, it is essential to incorporate filtration and desilting pits into rainwater harvesting systems to treat runoff before it enters the ground. Properly designed systems also use first-flush mechanisms to bypass the initial, most polluted portion of the rainfall event.

18. (D) Narmada Water Supply Scheme
The Narmada water supply scheme is a major engineering project that transports water over a distance of approximately seventy kilometers to Indore. This critical lifeline addresses the city's significant drinking water requirements by lifting and conveying water from the Narmada River. Multiple phases of this scheme have been implemented to keep pace with the growing population and expanding urban development.

19. (A) 1, 2, 3 and 4
Per capita water demand is influenced by city size, prevailing climatic conditions, and the level of industrial activity. Additionally, the cost of water and the presence of a metering system significantly affect consumer behavior and overall usage rates. Planners must consider all these factors to accurately estimate total water requirements and design robust infrastructure capable of meeting the city's future needs.

20. (C) Quantifying all moisture inputs, outputs, and storage changes within a defined urban hydrological unit.
Water budgeting involves a systematic analysis of all hydrological components, including precipitation, surface runoff, evaporation, and groundwater changes within an urban area. By quantifying these inputs and outputs, planners can determine the net availability of water resources and identify potential shortages. This process is essential for developing sustainable water management strategies and ensuring long-term security for the city's growing population.

21. (A) Flushing of toilets and urban landscaping
Recycled wastewater is most appropriately utilized for non-potable urban applications such as toilet flushing and maintaining public landscapes. Implementing dual pipe systems allows this treated water to be distributed safely without coming into contact with drinking water supplies. This strategy effectively reduces the pressure on high-quality freshwater sources, making it a sustainable choice for resource conservation in dense urban environments.

22. (D) Reverse Osmosis
Conventional surface water treatment typically involves processes such as flocculation, rapid sand filtration, and chlorination to remove impurities and pathogens. Reverse osmosis is considered an advanced treatment technology primarily used for desalination or removing dissolved solids and is not part of standard municipal plant operations. These traditional methods are designed to efficiently treat surface water to meet potable standards for general distribution.

23. (B) Fire demand calculation : Kuichling's formula
Calculating the required water flow for firefighting is a critical aspect of urban infrastructure design, often utilizing established empirical methods like Kuichling's formula. Other standard parameters define varying per capita needs based on housing types and facilities. For instance, mega cities with full flushing systems require higher supply levels, while areas relying on public standposts are allocated significantly lower daily quantities.

24. (C) Creating District Metered Areas while enforcing leak detection and regularizing unauthorized consumer connections.
Effectively reducing non-revenue water requires a comprehensive strategy that addresses both physical leakages and commercial losses. Establishing district metered areas enables precise monitoring and hydraulic auditing, which facilitates the identification of leaks. Simultaneously, regularizing unauthorized connections and ensuring accurate metering across the ward helps capture lost revenue. This dual approach improves the financial and operational sustainability of the municipal water system.

25. (D) P-3, Q-2, R-1, S-4
Anaerobic processes like the upflow anaerobic sludge blanket generate biogas, while sequencing batch reactors perform biological treatment and

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waste into larger, high-capacity trucks for more efficient transport. This approach significantly reduces total haulage costs and optimizes the use of the municipal fleet by minimizing long-distance trips for smaller tippers.

58. (A) 2, 4, 1, 3
The integrated solid waste management hierarchy prioritizes source reduction and minimization as the most preferred strategy. This is followed by recycling and reuse to recover materials, then energy recovery from non-recyclable waste. Safe disposal in engineered landfills is considered the least preferred option and should only be used for residual materials. Adopting this hierarchy helps municipalities maximize resource efficiency and sustainability.

59. (B) Recycled C&D products : Paving blocks, kerbstones, and aggregates
Construction and demolition waste can be effectively processed into high-quality recycled products such as paving blocks, kerbstones, and aggregates for new infrastructure projects. Regulations strictly prohibit mixing this heavy, inorganic material with general municipal waste to facilitate proper treatment. By recycling these materials, cities can reduce the demand for virgin resources and minimize the volume of waste sent to landfills.

60. (B) Organizing workers into cooperatives for formal employment within Material Recovery Facilities.
Socially inclusive waste management strategies focus on formalizing the roles of informal workers by organizing them into cooperatives. This approach provides them with stable employment opportunities within material recovery facilities, where they can utilize their expertise in waste sorting. Integrating these workers into the formal system improves their livelihoods and enhances the overall efficiency of the city's recycling and processing operations.

61. (A) P-2, Q-3, R-1
Standard bin color coding is essential for successful source segregation, using green bins for biodegradable wet waste and blue bins for non-biodegradable dry waste. Black bins or boxes are reserved for domestic hazardous materials, ensuring they are handled with proper care. This clear visual guidance helps citizens sort their waste correctly, facilitating more efficient collection and processing of different waste streams.

62. (C) 100 meters
Standard siting criteria for engineered sanitary landfills require a minimum buffer zone of one hundred meters from any river or water body. This distance is essential to protect aquatic ecosystems and prevent potential contamination from leachate runoff during heavy rainfall. Maintaining such a buffer is a critical regulatory requirement that ensures waste disposal facilities are located safely within the urban landscape.

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63. (C) Statement I is correct but Statement II is incorrect.
Door-to-door collection is a highly effective method for ensuring high rates of source segregation compared to communal bin systems. In a well-organized logistics chain, primary collection vehicles typically transport waste to secondary transfer stations rather than traveling all the way to a regional landfill. This two-stage process optimizes transportation efficiency and reduces the operational costs associated with managing municipal waste.

64. (A) Both A and R are true and R is the correct explanation of A.
Waste-to-energy incineration plants in developing regions often struggle because the municipal solid waste typically has a high organic fraction and high moisture levels. These characteristics result in a low calorific value, making combustion inefficient without the addition of expensive auxiliary fuel. Consequently, many cities face significant operational and financial challenges when attempting to use mass incineration as a primary solution.

65. (B) It is most suitable for processing dry, inorganic materials like plastic and glass.
Biomethanation is an anaerobic biological process specifically designed for treating organic wet waste rather than dry inorganic materials like plastic. Microorganisms break down biodegradable matter in the absence of oxygen to produce methane-rich biogas and a nutrient-dense digestate. This technology is highly effective for managing kitchen and food waste,

Maintaining this velocity reduces the frequency of manual cleaning and prevents blockages, which is particularly challenging in flat urban terrains.

34. (A) 2, 3, 5, 1, 4
The faecal sludge management service chain begins with the containment of waste in onsite systems like septic tanks. This is followed by the periodic emptying and subsequent transport of the sludge to a dedicated facility. After undergoing thorough treatment to remove pathogens and contaminants, the resulting material is then safely reused or disposed of in compliance with modern environmental and health standards.

35. (A) Freeboard in sewer pipes : Kept to avoid pressure flow and allow ventilation
Sewer pipes are designed with a specific freeboard to prevent pressurized flow and provide space for the ventilation of hazardous gases. The invert refers to the lowest interior level of the pipe, while the crown is its highest interior point. Additionally, manhole spacing is typically determined based on pipe diameter and cleaning requirements, ensuring the network remains accessible for regular maintenance.

36. (C) Integrating Sustainable Urban Drainage Systems (SUDS) and preserving natural drainage corridors.
Mitigating urban flooding in areas with high impervious cover requires integrating sustainable drainage systems that promote infiltration and manage runoff at the source. Preserving natural drainage corridors allows water to flow freely, reducing the risk of waterlogging in residential zones. These long-term planning strategies are more effective than purely structural interventions and help restore the natural hydrological balance within the modern city.

37. (A) P-2, Q-4, R-1, S-3
Catch basins are designed to trap grit and debris before they enter the storm sewer system. Drop manholes are utilized when there is a significant elevation difference between connecting pipes, while inverted siphons allow sewers to pass under physical obstacles like railways. Finally, outfall structures provide a safe point for discharging treated wastewater into receiving bodies, ensuring minimal negative environmental impact.

38. (C) 100%
The standard benchmark for urban sewage treatment adequacy is the capacity to treat one hundred percent of the total wastewater generated by the population. Achieving this target is essential for protecting local water bodies from pollution and ensuring public health. Municipalities strive to meet this level of treatment to comply with environmental regulations and promote sustainable water reuse in modern urban areas.

39. (C) Statement I is correct but Statement II is incorrect.
Faecal sludge is significantly more concentrated than standard municipal wastewater, containing much higher levels of organic matter and suspended solids. Because of its hazardous nature and high pollutant load, it must never be disposed of in stormwater drains, even when diluted with rain. Instead, it requires specialized treatment facilities to ensure it is handled safely without causing severe environmental degradation.

40. (A) Both A and R are true and R is the correct explanation of A.
Membrane bioreactor technology offers a compact alternative to conventional activated sludge processes by using membranes for solid-liquid separation. This innovation eliminates the need for large secondary clarifiers, significantly reducing the overall physical footprint of the treatment plant. Because the system can maintain higher biomass concentrations, it is particularly suitable for land-constrained urban areas requiring high-quality effluent for potential recycling.

41. (D) Increased urbanization invariably decreases the surface runoff coefficient of a catchment.
Urbanization leads to the replacement of permeable soil with impervious surfaces like roads and buildings, which significantly increases the surface runoff coefficient. This change causes larger volumes of water to reach drainage systems more quickly, often exceeding their capacity. Other factors like encroachment on floodplains and the dumping of solid waste in drains further exacerbate the frequency and severity of urban flooding.

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74. (B) 2026
National urban sanitation objectives have set the target year of 2026 for making all cities across the country completely garbage-free. This goal necessitates significant improvements in waste segregation, processing capacity, and the remediation of legacy dumpsites. By working toward this deadline, municipal bodies are encouraged to implement comprehensive and sustainable solid waste management practices that enhance the overall cleanliness of cities.

75. (A) Both Statement I and Statement II are correct.
The garbage-free cities star rating system is an independent certification used to holistically evaluate the solid waste management performance of urban areas. To be eligible for a three-star rating, a city must have already achieved at least open defecation free plus status. This framework encourages municipalities to continuously improve their sanitation standards by providing clear benchmarks for segregation, processing, and cleanliness.

76. (C) A is true but R is false.
National urban sanitation missions allocate significant funding to information, education, and communication strategies because behavior change is as critical as infrastructure development. The challenge is not merely building toilets but ensuring they are used consistently by addressing deep-rooted socio-cultural habits. Therefore, these programs combine technical solutions with mass awareness campaigns to achieve sustainable sanitation goals and promote a cleaner urban environment.

77. (A) The entire 100% funding for all infrastructure projects is borne exclusively by the Central Government.
National urban sanitation missions are centrally sponsored schemes where the cost of infrastructure projects is shared between the center and the states according to a defined ratio. While the central government provides significant support, states and urban local bodies are also expected to contribute their share. This funding model encourages local ownership and facilitates the participation of the private sector in infrastructure.

78. (C) Treating all municipal wastewater to satisfactory environmental standards before its final discharge.
The Water Plus certification awarded to Indore signifies that the city treats all of its municipal wastewater to stringent environmental standards before discharging it. This achievement demonstrates a commitment to preventing water pollution and promoting the safe reuse of treated effluent for non-potable purposes. Such high standards of wastewater management are essential for protecting local ecosystems and ensuring long-term urban water sustainability.

79. (A) 1, 2 and 3 only
Key objectives for achieving garbage-free status include the remediation of all legacy dumpsites and ensuring that cities reach higher sanitation milestones like the open defecation free plus plus designation. Additionally, mandatory source segregation of solid waste is essential for effective processing and recycling. While promoting electric vehicles is an important environmental goal, it is not a direct requirement for this status.

80. (C) A dedicated toilet facility provided within the premises of a single dwelling unit.
An individual household latrine is a private toilet facility located within the premises of a single dwelling unit for the exclusive use of its residents. These units are fundamental to achieving open defecation free status by providing safe and convenient sanitation options at the home level. Financial incentives are often provided to help eligible households construct these essential facilities, improving public health.

81. (B) Achieving 100% source segregation and mechanized sweeping with zero unprocessed waste sent to landfills.
To achieve a five-star garbage-free rating, a city must implement rigorous standards, including total source segregation and regular mechanized sweeping of streets. A crucial requirement is that no unprocessed waste should be sent to landfills, meaning all materials must be diverted for recycling, composting, or energy recovery. This high level of performance ensures maximum resource efficiency and exceptional urban cleanliness.

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account for less than 10% of the total recreational space in a city.

Which of the statements given above are correct?

(A) 1, 2, and 3 only
(B) 2 and 4 only
(C) 1, 3, and 4 only
(D) 1, 2, and 4 only

19. Which of the following represents the most critical location criterion for establishing a centralized district hospital serving multiple urban and peri-urban wards?

(A) Immediate proximity to high-density residential zones to prioritize pedestrian access for local residents.
(B) Exceptional spatial accessibility via major arterial roads and integration with public transit networks.
(C) Placement within heavy industrial zones to provide immediate trauma response for factory accidents.
(D) Location in highly elevated scenic fringe areas to promote recuperation through natural tranquility.

20. Match the service level benchmark sector in List-I with its core indicator in List-II:

List I: Service Level Benchmark Sector

P. Water Supply
Q. Sewerage
R. Solid Waste Management
S. Storm Water Drainage

List II: Core Indicator

1. Extent of segregation of waste
2. Incidence of water logging
3. Non-Revenue Water (NRW)
4. Quality of treatment

(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

21. Identify the INCORRECT pair regarding the conceptual dimensions of accessibility to urban services:

(A) Universal Accessibility – Limiting facility access strictly to demographic majorities to ensure streamlined and efficient service delivery.
(B) Spatial Accessibility – The physical distance or total travel time required for a user to reach a specific service facility.
(C) Economic Accessibility – The overall affordability of the service fees and associated transport costs for the end user.
(D) Social Accessibility – Freedom from any form of discrimination based on caste, gender, or religion at the service facility.

22. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):

Assertion (A): The Rights of Persons with Disabilities (RPWD) Act, 2016 mandates that all existing public buildings must be made accessible and barrier-free.

Reason (R): Urban planners are legally obligated to conduct accessibility audits and enforce National Building Code (NBC) 2016 guidelines for ramps, tactile paving, and accessible public toilets.

(A)Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

23. Which of the following is a correct statement regarding the Ayushman Bharat scheme and its infrastructure implications?

(A) It aims to transform existing Sub-Centres and PHCs into Health and Wellness Centres (HWCs) to deliver comprehensive primary healthcare.
(B) It focuses strictly on establishing new medical colleges without any investment in upgrading existing primary care facilities.
(C) It mandates the immediate privatization of all district-level hospitals to improve the quality of secondary care services.
(D) It explicitly prohibits the integration of digital health records at the grassroots level to ensure patient data privacy.

24. Arrange the following educational facilities based on their typical maximum walking distance/catchment radius (from smallest radius to largest radius) as recommended for urban areas:

1. Pre-Primary/Nursery School
2. Senior Secondary School

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90. (A) Bhopal
Bhopal has consistently earned high rankings in national cleanliness surveys, frequently appearing among the top cleanest cities in the country. This achievement reflects the city's effective waste management strategies, high levels of source segregation, and successful public awareness campaigns. Along with Indore, Bhopal serves as a leading example of urban sanitation excellence within the state of Madhya Pradesh for others.

91. (B) 1, 2 and 4 only
An open defecation free plus city must ensure that no person is found defecating in the open at any time. Additionally, all community and public toilets must be well-maintained and fully functional, providing essential amenities like water, soap, and adequate lighting. While treating and recycling wastewater is a goal of higher-level certifications, it is not a primary requirement for this.

92. (B) CTs serve residential communities lacking IHHLs, while PTs serve floating populations in commercial zones.
In urban planning, community toilets are designed to serve residential groups where households lack the space or resources for individual facilities. In contrast, public toilets are intended for the floating population in busy commercial areas, markets, and transit hubs. Both types of infrastructure are essential for maintaining public hygiene, though they cater to different user groups and specific urban locations.

93. (A) Using targeted social media campaigns, school sensitization programs, and gamified community competitions.
For a municipality with a high literacy rate, the most effective approach to boost source segregation involves interactive and engaging strategies. Targeted social media campaigns and school programs help build awareness from a young age, while gamified competitions encourage healthy community participation. These modern communication techniques are more successful at fostering long-term behavior change than traditional, text-heavy manuals or simple punitive.

94. (C) Number of large-scale heavy industries within city limits
Standard urban cleanliness survey methodologies evaluate cities based on service level progress, including segregated waste collection and processing efficiency. They also incorporate citizen feedback and formal certifications like the garbage-free cities star rating and open defecation free status. However, the number of large-scale heavy industries is not an assessment parameter for these surveys, as they focus primarily on municipal sanitation performance.

95. (D) Public mobilization campaign : A cleanliness campaign involving mass public participation
National capacity building initiatives for urban sanitation prioritize public mobilization campaigns that encourage mass participation in cleanliness drives. These efforts aim to foster a sense of collective responsibility and drive behavior change across all sections of society. By involving citizens directly in sanitation activities, municipal bodies can sustain cleanliness more effectively and achieve long-term improvements in the local urban environment.

96. (C) Using vigilance committees, ensuring community toilet functionality, and conducting behavior change workshops.
Sustaining open defecation free status in challenging areas requires a combination of vigilance and community engagement. Establishing committees to monitor hotspots and ensuring that nearby community toilets are always functional and accessible are critical steps. Additionally, regular behavior change workshops help address the underlying reasons for relapse, fostering a culture of hygiene that is more effective than simple physical barriers.

97. (B) P-1, Q-2, R-3, S-4
Transmission substations are responsible for stepping down extra-high voltage for local transmission, while distribution transformers reduce this voltage further for consumer use. Feeders carry the power from substations to these transformers throughout the city. Finally, the service connection provides the physical link between the utility network and the individual consumer meter, completing the power distribution chain to urban households.

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82. (A) 3, 2, 4, 1
India's national sanitation programs have evolved through several stages, beginning with the central rural sanitation programme in nineteen eighty-six. This was followed by the total sanitation campaign in nineteen ninety-nine and the nirmal bharat abhiyan in twenty twelve. The most comprehensive initiative, the swachh bharat mission, was subsequently launched in twenty fourteen, aiming to achieve universal sanitation coverage and cleanliness throughout.

83. (A) Urban Sanitation and Water Missions : Synergy in achieving universal water supply and sewerage targets
The convergence of national urban missions creates significant synergy by aligning water supply and sanitation targets to provide comprehensive services. By coordinating infrastructure projects, cities can achieve universal coverage of piped water and modern sewerage networks more effectively. This integrated approach ensures that water resource management and wastewater treatment are handled holistically, leading to more sustainable and resilient urban environments.

84. (C) Constructing community toilets with adequate water and lighting within the informal settlement.
In densely populated informal settlements where space constraints prevent the installation of individual household latrines, community toilets offer a practical and effective solution. These facilities must be equipped with adequate water, proper lighting, and consistent maintenance to ensure they are safe and functional for all residents. Providing such shared sanitation infrastructure within the settlement significantly improves public health and local community hygiene.

85. (A) P-2, Q-1, R-4, S-3
Swachh survekshan is a large-scale survey used to rank cities on cleanliness, while the swachhata app allows citizens to report solid waste grievances for redressal. Management information systems track the physical and financial progress of mission targets, providing a data-driven overview for administrators. Additionally, swachh manch serves as a web-based platform for volunteers to share their community participation events.

86. (C) ₹ 12,000
Under national urban sanitation programs, eligible households receive a standard financial incentive of twelve thousand rupees to support the construction of an individual household latrine. This subsidy is designed to make safe sanitation more accessible for lower-income families and encourage the elimination of open defecation. By providing this financial assistance, the government helps improve public health and hygiene standards across urban.

87. (A) Both Statement I and Statement II are correct.
Urban sanitation missions focus heavily on managing solid waste, treating wastewater, and achieving open defecation free status in cities. Simultaneously, rural sanitation missions aim to improve the quality of life in villages by promoting hygiene and managing both solid and liquid waste. Together, these programs form a comprehensive national strategy to enhance sanitation standards across both urban and rural settings.

88. (A) Both A and R are true and R is the correct explanation of A.
Achieving the open defecation free plus plus certification requires robust infrastructure, such as faecal sludge treatment plants or sewage treatment facilities. This designation mandates that all collected waste is safely conveyed and treated, ensuring that no untreated sewage is discharged into local water bodies. These stringent requirements promote a high level of environmental protection and safeguard the health of every community.

89. (D) Self-Help Groups (SHGs) are barred from participating in community toilet management to ensure technical efficiency.
National guidelines actively encourage the formalization and integration of informal waste workers and self-help groups into urban sanitation systems. These groups are often involved in managing community toilets and participating in behavior change campaigns, which enhances local ownership and operational effectiveness. Priorities such as providing safety gear and health camps for workers further ensure that the sanitation workforce is always protected.

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106. (A) 3, 1, 4, 2
Mobile telecommunications in India have progressed through several generations, beginning with the widespread deployment of 2G technology for voice and basic data. This was followed by the introduction of 3G for faster internet and then 4G, which brought high-speed broadband and video streaming capabilities. The most recent advancement is the rollout of 5G, which offers even higher bandwidth.

107. (B) Solar Park : Centralized, utility-scale power generation over large tracts of land
Solar parks are large-scale, centralized facilities designed for utility-level power generation using vast tracts of land for solar panels. These parks contribute significantly to the national renewable energy capacity by providing a clean alternative to fossil fuels. Other systems like net metering allow individual consumers to feed solar power back into the grid, promoting decentralized generation and reducing costs.

108. (B) By integrating small cell antennas onto existing street furniture like smart poles, streetlights, and bus shelters.
To accommodate the dense deployment of micro-cells required for 5G networks, urban planners can integrate small cell antennas onto existing street furniture. Utilizing smart poles, streetlights, and bus shelters minimizes the need for new, unsightly towers and preserves urban aesthetics. This approach allows for high-capacity wireless coverage in localized areas while making efficient use of the available city space.

109. (A) P-4, Q-2, R-3, S-1
Optical fiber cables use light pulses to transmit vast amounts of data at high speeds, forming the backbone of modern telecom. Cell towers provide wide-area wireless coverage, while small cells offer dense connectivity in localized urban zones. Data centers house the critical computing and storage systems needed to manage this digital infrastructure, ensuring that telecommunications networks operate reliably across the city.

110. (B) 30 to 50 meters
For urban arterial roads, the standard spacing between street light poles is generally recommended to be between thirty and fifty meters. This distance ensures uniform illumination across the roadway, which is critical for the safety of both drivers and pedestrians. Planners must calculate this spacing based on pole height and lamp type to maintain adequate light levels throughout.

111. (C) Statement I is correct but Statement II is incorrect.
Development control regulations often mandate the installation of solar water heating systems for specific building types to promote energy conservation. However, requiring solar rooftop photovoltaic systems does not limit a building's ability to connect to the central grid; instead, it often allows for net metering. These regulations encourage the adoption of renewable energy while maintaining a reliable connection to the network.

112. (A) Both A and R are true and R is the correct explanation of A.
National schemes for the power distribution sector aim to enhance the financial and operational sustainability of distribution companies. High aggregate technical and commercial losses, which include both energy waste and revenue leakage, severely hinder a utility's ability to invest in and maintain modern infrastructure. By addressing these efficiencies, the government seeks to ensure that urban power networks can meet.

113. (B) OFCs are highly susceptible to electromagnetic interference from adjacent high-voltage power lines.
Optical fiber cables are not susceptible to electromagnetic interference because they transmit data using light pulses rather than electrical signals. This makes them ideal for installation alongside power lines and within busy urban corridors. They provide the essential high-bandwidth communication backbone for smart city initiatives, including surveillance and environmental monitoring, while using trenchless technologies to minimize disruption during their installation.

114. (D) Municipal Commissioner / Chief Municipal Officer (CMO)
Within municipal limits, the municipal commissioner or chief municipal officer typically serves as the nodal authority for granting right-

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flexible, multi-use community spaces that can be converted into temporary quarantine or care centers.
(B) The crisis underscored the necessity of robust digital health infrastructure and telemedicine integration in urban centers.
(C) There is a renewed emphasis on hyper-centralized mega-hospitals at the city periphery rather than decentralized neighborhood clinics.
(D) Adequate ventilation and open space integration in public healthcare buildings emerged as a critical design imperative.

7. Arrange the following recreational open spaces in ascending order based on their typical minimum population catchment size:
1. District Park
2. Housing Area Park
3. City Park
4. Neighbourhood Park

(A) 2, 4, 1, 3
(B) 4, 2, 1, 3
(C) 2, 4, 3, 1
(D) 4, 2, 3, 1

8. In the context of medical tourism and regional health infrastructure in Madhya Pradesh, the establishment of AIIMS Bhopal was executed under which major central government initiative?
(A) National Urban Health Mission (NUHM)
(B) Ayushman Bharat Health Infrastructure Mission
(C) Smart Cities Mission
(D) Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)

9. Identify the correct pair regarding the site selection criteria for educational infrastructure:
(A) Primary School – Must be located on high-visibility arterial roads with significant vehicular traffic to ensure ease of student drop-off.
(B) Integrated School Complex – Requires a larger consolidated land parcel to share sports and laboratory facilities.
(C) Middle School – Maximum acceptable walking distance to the facility for all students is generally established at 5 kilometers.
(D) Secondary School – Land area for the campus is strictly limited to 0.2 hectares to maximize the efficient use of urban space.

10. Consider the following statements regarding the infrastructure implications of the National Education Policy (NEP) 2020:
1. It promotes the concept of 'School Complexes' to ensure the sharing of resources like libraries, laboratories, and playgrounds among a cluster of schools.
2. It mandates the dismantling of all existing standalone primary schools in rural areas.
3. It emphasizes the integration of digital infrastructure and smart classrooms to bridge the digital divide.
4. It restricts private sector participation in the development of higher educational infrastructure.

Which of the statements given above are correct?
(A) 1 and 3 only
(B) 2 and 4 only
(C) 1, 3, and 4 only
(D) 1, 2, and 3 only

11. All of the following are mandatory considerations for the safe location and site selection of a primary school in a neighbourhood plan, EXCEPT:
(A) Minimizing pedestrian crossing of major arterial roads to ensure safety.
(B) Ensuring adequate set-backs for natural light and ventilation in classrooms.
(C) Providing barrier-free access for children with physical or cognitive disabilities.
(D) Locating the facility adjacent to heavy industrial zones to utilize vacant land.

12. Match the community facility in List-I with its population norm in List-II:
List I: Community Facility
P. Fire Station
Q. Police Station
R. Head Post Office
S. Community Hall
List II: Population Norm
1. 90,000
2. 1,00,000
3. 2,00,000
4. 2,50,000

(A) P-3, Q-1, R-4, S-2

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CHAPTER 07
Social Infrastructure and Urban Services

1. Consider the following statements regarding the health infrastructure hierarchy:
1. A Health Sub-Centre is the most peripheral point of contact, typically established for a population of 5,000 in plain areas.
2. A Primary Health Centre (PHC) acts as a referral unit for 6 Sub-Centres and serves a population of 30,000 in plain areas.
3. A Community Health Centre (CHC) is structured to serve a population of 50,000 in hilly or tribal areas.
4. The District Hospital serves as the tertiary care center strictly for a population not exceeding 1 million.

Which of the statements given above are correct?
(A) 1 and 2 only
(B) 2, 3, and 4 only
(C) 1, 2, and 4 only
(D) 1, 3, and 4 only

2. What is the generally prescribed benchmark for hospital beds per 1,000 population to ensure adequate health infrastructure in urban areas according to URDPFI guidelines?
(A) 1 bed per 1,000 population
(B) 2 beds per 1,000 population
(C) 4 beds per 1,000 population
(D) 5 beds per 1,000 population

3. Match the educational facility in List-I with its minimum catchment population in List-II:
List I: Educational Facility
P. Primary School
Q. Senior Secondary School
R. Integrated School with Hostel
S. College
List II: Minimum Catchment Population
1. 1,25,000
2. 5,000
3. 7,500
4. 90,000 to 1,00,000
(A) P-3, Q-2, R-1, S-4
(B) P-2, Q-3, R-4, S-1
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-4, R-3, S-1

4. Consider the following statements regarding Health Impact Assessment (HIA) in urban planning:
Statement I: Health Impact Assessment (HIA) in urban planning is a practical approach used to judge the potential health effects of a policy, programme, or project on a population.
Statement II: HIA is fundamentally a quantitative financial audit of healthcare facilities mandated before the issuance of building permits in Indian cities.
Which of the statements given above are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

5. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The establishment of Urban Primary Health Centres (UPHCs) within or adjacent to slum areas is a core strategy of the National Urban Health Mission (NUHM).
Reason (R): Slum populations face significant spatial and economic barriers to accessing centralized district hospitals, necessitating decentralized, accessible primary care.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

6. Which of the following statements regarding the lessons learned from the COVID-19 pandemic for urban health infrastructure planning is INCORRECT?
(A) The pandemic highlighted the need for

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of-way permissions for telecom infrastructure. This centralized role ensures that the laying of cables and installation of towers are coordinated with other city services and road maintenance schedules. By managing these approvals, the local authority facilitates the efficient expansion of digital connectivity.

115. (A) 1, 2, 3 and 4
The ICT backbone for smart cities typically integrates city-wide Wi-Fi networks, CCTV surveillance, and SCADA systems for managing water and power. Additionally, environmental sensors are deployed to monitor air quality and other vital parameters in real time. By combining these diverse technological elements, urban planners can create more responsive and efficient municipal services that enhance the quality of urban life.

116. (C) Supervisory Control and Data Acquisition
SCADA stands for supervisory control and data acquisition, a technology used to monitor and manage large-scale urban infrastructure like water and power systems. This system allows municipal operators to collect real-time data from various sensors and remotely control critical components such as valves and pumps. By providing centralized oversight, it enhances the operational efficiency and reliability of every essential urban service.

117. (A) Wet utilities (water, sewerage) should be separated from dry utilities (power, telecom), preferably using accessible modular ducts.
In designing a sustainable utility corridor, it is essential to separate wet utilities like water and sewerage from dry utilities such as power and telecom. Using accessible modular ducts allows for easier maintenance and upgrades without the need for frequent road excavations. This organized arrangement prevents potential contamination of water supplies and ensures that each urban service is managed efficiently.

118. (D) Increase in Aggregate Technical and Commercial (AT&C) losses
Implementing smart grids in urban areas offers numerous benefits, including the reduction of peak load demand and easier integration of renewable energy sources. These advanced networks also facilitate faster fault detection and restoration, which improves overall reliability for consumers. However, an increase in technical and commercial losses is not a benefit; instead, smart grids are specifically designed to reduce them.

119. (B) Staggered arrangement : Luminaires placed on alternate sides of the road, suitable for medium-width roads
A staggered arrangement of street lights involves placing luminaires on alternate sides of the roadway, making it highly suitable for medium-width roads. This layout provides balanced illumination and reduces shadows, which enhances visibility for both drivers and pedestrians. Planners select this topology to achieve uniform light distribution when a single-sided arrangement would be insufficient and a central median unavailable.

120. (C) Establishing a Multi-Utility Duct committee using GIS-based mapping to coordinate all spatial alignments.
To resolve conflicts between utility departments during road redevelopment, establishing a multi-utility duct committee is a highly effective planning mechanism. Utilizing GIS-based mapping allows for the precise coordination of all underground spatial alignments, ensuring that various services do not interfere with one another. This collaborative approach minimizes the need for repeated trenching and facilitates the efficient management of city infrastructure.

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(B) P-3, Q-1, R-2, S-4
(C) P-2, Q-1, R-4, S-3
(D) P-1, Q-2, R-3, S-4

13. A town planner is designing a neighbourhood park in an area with a predominantly elderly demographic. According to inclusive design principles, which of the following interventions should be prioritized?
(A) Extensive installation of high-impact sports equipment and deep sand pits.
(B) Provision of shaded resting areas at regular intervals, non-slip even pathways, and handrails.
(C) Limiting entry points to a single gate to ensure maximum security control.
(D) Designing steep gradients to encourage cardiovascular physical activity.

14. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The Gravity Model is frequently utilized in planning for facility location, such as large commercial centers or district hospitals.
Reason (R): The model posits that the interaction between two locations is directly proportional to the distance between them and inversely proportional to their masses (population size).
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

15. When locating a new cremation and burial ground in a rapidly expanding Tier-II city, a planner must primarily ensure which of the following criteria to align with environmental considerations?
(A) It should be located on the leeward side of the city with a mandatory green buffer of dense plantation to mitigate air pollution and visual impact.
(B) It should be strategically placed at the highest elevated topographical point of the city to ensure natural storm-water drainage flows away from the site.
(C) It must be placed exactly in the geographic center of the urban town area to ensure equitable and equidistant travel access for all grieving citizens.
(D) It should be positioned immediately adjacent to major city-wide water reservoirs to facilitate traditional rituals and simplify administrative water supply.

16. To calculate the Walkability Index of an urban precinct, which of the following core variables are typically integrated into the spatial analysis?
(A) Total number of multi-story parking lots, average road width, and local speed limits.
(B) Prevailing economic ground rent, average building heights, and floor area ratios.
(C) Residential density, street connectivity (intersection density), and land use mix.
(D) Observed traffic volume, public transit frequencies, and toll booth placement locations.

17. Which of the following best defines "Service Area Analysis" (Catchment Analysis) in the context of urban infrastructure planning?
(A) The process of calculating the total monetary value of a public service relative to user fees collected for maintenance and operational overheads.
(B) The architectural assessment of a building's internal layout and floor plan to maximize the spatial efficiency of service delivery zones.
(C) The temporal analysis of periodic maintenance schedules and repair cycles for critical underground urban utility and infrastructure networks.
(D) A GIS-based methodology to determine the spatial extent or geographic boundary from which a facility draws its users based on distance or travel time.

18. Consider the following statements regarding the norms for open spaces and parks:
1. The standard provision for recreational open spaces at the city level is generally targeted at 10-12 sq.m per person.
2. A neighbourhood park is typically designed to serve a population of 15,000.
3. Green buffer zones along transport corridors are excluded from the calculation of usable recreational open space.
4. Sports facilities and playgrounds must

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98. (B) 33 kV or 11 kV
In India, the primary urban power distribution network typically operates at voltage levels of thirty-three kilovolts or eleven kilovolts. These voltages are used to efficiently transport electricity from substations to local distribution transformers located near residential and commercial areas. From there, the voltage is stepped down to lower utilization levels, such as four hundred fifteen volts for urban consumers.

99. (C) Statement I is correct but Statement II is incorrect.
Common utility ducts are designed to house multiple services like electricity, telecom, and water within a single underground tunnel. This integrated approach significantly reduces the need for repeated road excavations by various utility agencies, as maintenance can be performed within the duct itself. By streamlining infrastructure management, these ducts improve urban efficiency and minimize the disruption caused by frequent road trenching.

100. (A) Both A and R are true and R is the correct explanation of A.
Underground power cabling is preferred in dense urban areas because it is highly resistant to extreme weather events like cyclones and storms. This approach also significantly improves urban aesthetics by removing unsightly overhead wires and frees up valuable above-ground space for other uses. Consequently, many smart city projects prioritize underground distribution to enhance both the reliability and beauty of the city.

101. (A) Local bodies can deny permission arbitrarily without citing specific reasons.
Right-of-way rules are designed to streamline the deployment of telecom infrastructure by requiring local bodies to provide clear reasons for any denials. These regulations establish centralized single-window portals to expedite approvals and allow for reasonable restoration charges when roads are trenched. By preventing arbitrary decisions, these rules facilitate the rapid expansion of essential optical fiber networks and other modern telecom services.

102. (D) Sanchi
Sanchi achieved the significant milestone of becoming India's first solar city, a project inaugurated to showcase sustainable energy integration in a historical setting. This initiative involved the installation of solar plants and rooftop systems to meet the city's power requirements through renewable sources. By reducing its carbon footprint, Sanchi serves as a national model for other urban areas aiming for sustainability.

103. (B) 1, 2 and 4 only
A smart grid features two-way communication between the utility and consumers, enabling more efficient energy management. It also incorporates automated outage detection and self-healing capabilities to improve reliability. Furthermore, the integration of distributed energy resources, such as rooftop solar, allows for a more flexible and sustainable power network. Unlike traditional grids, it does not rely exclusively on fossil energy.

104. (C) Advanced meters that record consumption at high frequency and communicate the data back to the utility for monitoring and billing.
Smart metering involves the use of advanced digital meters that record electricity consumption at frequent intervals and transmit this data directly to the utility. This technology enables more accurate billing, remote monitoring, and the implementation of dynamic pricing models. By providing real-time information to both utilities and consumers, smart meters help optimize energy usage and improve the efficiency of power distribution.

105. (D) Retrofitting all existing street lights with Light Emitting Diode (LED) fixtures combined with astronomical timers.
Replacing traditional street lighting with energy-efficient LED fixtures is a highly cost-effective way to reduce a municipality's energy footprint. Combining these lights with astronomical timers ensures they operate only when needed, further optimizing consumption. This modern intervention provides better illumination while significantly lowering maintenance costs and greenhouse gas emissions, making it an essential component of sustainable urban infrastructure planning.

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3. Primary School
4. College

(A) 1, 3, 2, 4
(B) 3, 1, 2, 4
(C) 1, 2, 3, 4
(D) 3, 2, 1, 4

25. Under the Madhya Pradesh Bhumi Vikas Niyam, 2012, when laying out a residential colony, what is the mandatory minimum percentage of the total area that must be reserved for parks and open spaces?
(A) 5%
(B) 10%
(C) 15%
(D) 25%

26. Consider the following statements regarding smart classrooms and digital infrastructure in public schools:
1. They require dependable high-speed internet connectivity as a baseline utility.
2. They negate the need for physical open spaces and playgrounds in the school premises.
3. They necessitate updated building norms to accommodate servers, digital boards, and continuous power backup.
4. They can bridge educational inequities if paired with last-mile digital access schemes.

Which of the statements given above are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2 and 3 only
(D) 3 and 4 only

27. According to standard emergency service norms, what is the ideal maximum response time aimed for by Fire Stations in high-density, high-risk urban commercial areas?
(A) 1 to 2 minutes
(B) 3 to 5 minutes
(C) 10 to 15 minutes
(D) 20 to 25 minutes

28. Match the cultural / civic infrastructure in List-I with its recommended location criteria in List-II:
List I: Cultural / Civic Infrastructure
P. Museum
Q. Branch Post Office
R. Multipurpose Community Hall
S. Electric Sub-station
List II: Recommended Location Criteria
1. Centrally located within a neighbourhood, integrated with local commercial centres.
2. Prominent city-level location, accessible via major public transit networks.
3. Located away from public congregation areas, with adequate safety fencing.
4. Embedded within a residential cluster, ideally co-located with a neighbourhood park.

(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-4, R-1, S-3

29. Consider the following statements regarding the Integrated School Complex concept as advocated by NEP 2020:
Statement I: The Integrated School Complex concept consolidates multiple smaller schools covering different educational stages into one physical or administrative unit.
Statement II: This consolidation always leads to an absolute reduction in the spatial accessibility of primary education for younger children in dense urban slums.
Which of the statements given above are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

30. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Green buffer zones and avenue plantations are critical infrastructure components along major urban arterial roads.
Reason (R): They act exclusively to demarcate administrative municipal boundaries and have no measurable impact on microclimate or air quality.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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31. A town planner is analyzing the distribution of primary healthcare centers in a peri-urban area using GIS. The map reveals that while the facility-to-population ratio is sufficient, several low-income settlements are separated from these centers by a major railway line with no nearby pedestrian overpass. This scenario primarily highlights a failure in which type of accessibility?
(A) Spatial Accessibility
(B) Economic Accessibility
(C) Digital Accessibility
(D) Universal Accessibility

32. In the context of equity in service distribution, what is the primary objective of "Deprivation Mapping"?
(A) To identify and legally penalize individuals who are deliberately avoiding the payment of their utility tariffs.
(B) To determine the maximum land value capable of being captured by private developers in newly zoned city areas.
(C) To spatially identify geographic pockets or demographic groups lacking adequate access to essential urban services.
(D) To map specific urban areas that are suitable exclusively for heavy industrial development and manufacturing.

33. Identify the correct pair regarding infrastructure planning standards and their primary domain:
(A) CPHEEO Manuals – Guidelines for the structural safety and seismic resilience of high-rise commercial buildings.
(B) NBC 2016 – Standard water quality testing procedures for rural borewells and agricultural irrigation systems.
(C) BIS Standards – Zoning regulations and detailed land use classifications for municipal master plan preparation.
(D) IRC Codes – Geometric design and standards for roads and transport networks.

34. Consider the following statements regarding the Ease of Living Index (EoLI) developed by the Ministry of Housing and Urban Affairs (MoHUA):
1. It aims to evaluate the quality of life and the impact of various initiatives for urban development.
2. It completely ignores economic ability and focuses purely on physical infrastructure.
3. It incorporates a Citizen Perception Survey to gauge the residents' views on city services.
4. Education and Health are critical sub-pillars assessed under the Quality of Life dimension.

Which of the statements given above are correct?
(A) 1 and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 2 and 4 only

35. The Service Level Benchmarks (SLBs) framework developed by the Ministry of Housing and Urban Affairs (MoHUA) measures performance across four key sectors. Which of the following is NOT one of these four core sectors?
(A) Water Supply
(B) Public Transport
(C) Solid Waste Management
(D) Storm Water Drainage

36. Match the urban space tool in List-I with its primary application in List-II:
List I: Urban Space Tool/Model
P. Gravity Model
Q. Pedestrian Shed Analysis
R. Accessibility Audit
S. Service Level Benchmarks
List II: Primary Application
1. Evaluating existing buildings for barrier-free compliance.
2. Quantifying the operational efficiency of municipal utilities.
3. Estimating spatial interaction and facility catchment based on distance.
4. Mapping the 5-minute or 10-minute walkability zone around a transit node.
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

37. A planner conducts a "Pedestrian Shed Analysis" mapping a 400-meter radius around a proposed mass transit station. This 400-meter radius is standardly utilized because it roughly corresponds to a walking time of:
(A) 2 minutes

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(B) 5 minutes
(C) 15 minutes
(D) 30 minutes

38. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The private sector plays an increasingly dominant role in the provision of higher education infrastructure in urban India.
Reason (R): State governments must prioritize funding and policy support to encourage private sector land monetization in the higher education sector.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

39. Which of the following represents the most appropriate strategy for resolving "last-mile connectivity" issues in the context of urban healthcare services in low-income neighborhoods?
(A) Deploying mobile health clinics and strengthening dedicated, well-lit pedestrian and paratransit pathways to local primary health centers.
(B) Expanding the total parking capacity at the central district hospital to accommodate more private vehicles.
(C) Constructing wide, multi-lane expressways that bypass the neighborhood to speed up transit to the city periphery.
(D) Increasing the floor area ratio (FAR) of private pharmacies to allow for more commercial storage space.

40. In the domain of inclusive design, "Universal Accessibility" is best defined as:
(A) Ensuring that public infrastructure is accessible solely by personal motorized vehicles to maximize efficiency.
(B) Mandating that all healthcare services are provided free of cost to all citizens regardless of their economic status.
(C) Ensuring uniform architectural facades across all civic infrastructure buildings to maintain a consistent city aesthetic.
(D) Designing products, environments, and programs to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

41. Arrange the chronological steps typically involved in conducting an Accessibility Audit for a public library:
1. Formulation of actionable recommendations and retrofit cost estimates.
2. Pre-audit meeting and familiarization with the site layout.
3. On-site physical measurement of doorways, ramps, and washrooms.
4. Review of the building's compliance against barrier-free norms.
(A) 2, 3, 4, 1
(B) 3, 2, 4, 1
(C) 2, 4, 3, 1
(D) 4, 2, 3, 1

42. Under the Smart Cities Mission implementation in Madhya Pradesh cities like Bhopal and Indore, the concept of "Smart Classrooms" often leverages which of the following urban infrastructure layers?
(A) Underground Sewerage Networks and centralized treatment plants.
(B) Centralized Solid Waste Transfer Stations and sorting facilities.
(C) Optical Fibre Cable (OFC) network deployed through the Integrated Command and Control Centres (ICCC).
(D) Heritage Conservation Corridors and aesthetic lighting projects.

43. Consider the following statements regarding the planning of cultural infrastructure (libraries, auditoriums, museums):
1. They require strategic locations with high connectivity, often clustered into "civic or cultural nodes."
2. Adequate parking and public transit access are critical due to periodic high-volume congregations.
3. Standards suggest one city-level multipurpose ground/auditorium per 1 million population.
4. They are strictly prohibited in the central business districts (CBDs) of major cities.
Which of the statements given above are correct?

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(D) Network Analysis

57. What is the primary objective of transforming existing health facilities into Health and Wellness Centres (HWCs) under the Ayushman Bharat scheme?
(A) To strictly provide high-end, tertiary surgical interventions in rural areas for critical health issues.
(B) To deliver Comprehensive Primary Health Care (CPHC) closer to the community, covering maternal health and non-communicable diseases.
(C) To privatize rural healthcare delivery and shift all public services to a fee-based commercial model.
(D) To reduce the total number of hospital beds across the district infrastructure to save maintenance costs.

58. Arrange the following police infrastructure facilities in a typical urban administrative hierarchy from the most localized to the highest district authority:
1. Police Post (Chowki)
2. District Police Headquarters
3. Police Station (Thana)
4. Zonal / Circle Office
(A) 1, 3, 4, 2
(B) 3, 1, 2, 4
(C) 1, 4, 3, 2
(D) 3, 4, 1, 2

59. In the context of spatial planning in Madhya Pradesh, according to prevailing state bye-laws, which community facility is usually mandatory to integrate into the layout of a large residential scheme exceeding 10 hectares?
(A) A heavy manufacturing plant for industrial production.
(B) A centralized municipal landfill and waste processing site.
(C) An interstate bus terminal for long-distance regional travel.
(D) Neighbourhood parks and a localized commercial convenience centre.

60. Consider the following statements regarding the benchmarking of Indian cities by institutions like the National Institute of Urban Affairs (NIUA):
1. It helps identify gaps in basic civic services like water supply, sanitation, and solid waste management.
2. Benchmarking promotes a competitive environment among municipalities to improve their Liveability Index scores.
3. The data collected exclusively relies on satellite imagery, strictly ignoring ground-level citizen feedback.
4. It aids state governments in linking performance with infrastructure funding grants.
Which of the statements given above are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2 and 3 only
(D) 2 and 4 only

61. According to the core Service Level Benchmarks (SLBs) laid out by the Ministry of Housing and Urban Affairs (MoHUA), what is the target benchmark for the coverage of water supply connections in an urban local body?
(A) 75%
(B) 85%
(C) 100%
(D) 120%

62. Match the urban space in List-I with its design requirement in List-II:
List I: Urban Space
P. Public Sidewalks
Q. Public Parking
R. Building Entrances
S. Multi-story Public Buildings
List II: Design Requirement
1. Ramps with a maximum gradient of 1:12
2. Tactile guiding paths
3. Elevators with auditory signals and Braille buttons
4. Dedicated bays near the main entrance with wider dimensions
(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-1, Q-3, R-2, S-4
(D) P-2, Q-1, R-4, S-3

63. Identify the INCORRECT pair regarding the typical land area norms for respective facilities:
(A) Health Sub-Centre – 5.00 Hectares
(B) Primary School – 0.40 Hectares

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(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

51. Consider the following statements regarding the Indian Roads Congress (IRC) standards in the context of urban infrastructure planning:
1. IRC standards provide technical guidelines on the geometric design of urban roads.
2. They mandate the absolute removal of all pedestrian footpaths to speed up motorized traffic.
3. They include guidelines for traffic calming measures in school and hospital zones.
4. They specify the design requirements for cycle tracks in urban areas.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2 and 4 only
(D) 1 and 4 only

52. In a newly planned sector for a population of roughly 1,00,000 in a Tier-II city, a planner needs to locate a Community Health Centre (CHC) and a Police Station. Based on standard norms and compatibility, which site allocation strategy is most prudent?
(A) Locating the CHC in the center of an industrial zone and the Police Station inside a quiet residential park.
(B) Placing both facilities in the extreme rural periphery to minimize initial land acquisition and development costs.
(C) Integrating the Police Station inside the CHC building to share utility bills and administrative staff.
(D) Clustering both facilities near the sector's civic node with direct access to an arterial road for rapid emergency response.

53. Match the facility type in List-I with its general maximum walking distance in List-II:
List I: Facility Type
P. Primary School
Q. Pre-Primary / Nursery School
R. Neighbourhood Park
S. Local Convenience Shops
List II: General Maximum Walking Distance
1. 800 meters
2. 500 meters
3. 800 - 1000 meters
4. 400 - 500 meters
(A) P-1, Q-4, R-3, S-2
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-2, R-1, S-3
(D) P-2, Q-1, R-4, S-3

54. When evaluating school safety and building standards according to the National Building Code (NBC) 2016, which of the following features is NOT recommended?
(A) Two wide, distinct means of egress (staircases) for multi-story buildings to ensure safe evacuation.
(B) Installation of fire alarms and portable fire extinguishers on every floor of the school facility.
(C) Single-entry bottleneck corridors to tightly control and monitor all student and staff movement.
(D) Structural design resistant to the specific seismic zone and environmental hazards of the region.

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55. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Avenue plantations and green buffer zones along major urban roads are essential components of physical infrastructure planning.
Reason (R): They act as natural noise barriers, mitigate vehicular emissions, and provide shade for pedestrians, thereby enhancing the walkability index.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

56. When employing GIS-based accessibility mapping to evaluate the service area of a newly proposed fire station, which analytical tool is most effective to account for real-world travel delays?
(A) Buffer Analysis (Euclidean distance)
(B) Viewshed Analysis
(C) Terrain Overlay Mapping

(A) 1 and 2 only
(B) 1, 2, and 3 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

44. As per standard planning norms for police infrastructure, a typical Police Station is generally designed to serve a catchment population of approximately:
(A) 10,000 to 20,000
(B) 40,000 to 50,000
(C) 90,000 to 1,00,000
(D) 3,00,000 to 5,00,000

45. Match the social infrastructure concept in List-I with its key focus area in List-II:
List I: Social Infrastructure Concept
P. Barrier-free environment
Q. Walkability Index
R. Catchment Area
S. Deprivation Mapping
List II: Key Focus Area
1. Spatial reach of a specific facility
2. Identifying vulnerable unserved populations
3. Accessibility compliance for persons with disabilities
4. Pedestrian infrastructure quality
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

46. Which of the following statements concerning educational infrastructure in peri-urban areas is INCORRECT?
(A) Land values in peri-urban areas often make them attractive for establishing large higher education campuses.
(B) Peri-urban educational hubs generally require minimal supportive infrastructure as they strictly operate as closed systems.
(C) Connectivity to the parent city via public transit is a major challenge for students commuting to these institutes.
(D) These areas often witness organic clustering of private schools and colleges along transport corridors.

47. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): In contemporary urban planning, religious buildings and community halls are often planned with adequate setbacks and dedicated parking spaces.
Reason (R): These facilities generate intensive, localized traffic and noise congestion during specific festivals or community events.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

48. A town planner is tasked with auditing a proposed multi-story community centre for compliance with accessibility standards. Which of the following design elements fulfills the mandate for a barrier-free environment?
(A) Revolving doors at the main entrance to conserve air conditioning and minimize internal temperature fluctuations.
(B) Signage displaying information exclusively in complex regional dialects to maintain the local cultural heritage.
(C) Washrooms with outward-opening doors, grab bars, and a turning radius of at least 1.5 meters.
(D) Elevators with touch-only sensitive control panels placed at a height of 1.8 meters to prevent unauthorized use.

49. Identify the correct pair regarding the standard bed capacities in the health infrastructure hierarchy:
(A) Primary Health Centre (PHC) – 5 to 10 beds
(B) Health Sub-Centre – 15 to 25 beds
(C) Community Health Centre (CHC) – 30 to 50 beds
(D) District Hospital – 100 to 500 beds

50. Consider the following statements regarding urban services accessibility:
Statement I: Spatial accessibility to a primary school implies that the facility is within a physically walkable distance, unhindered by geographical barriers.
Statement II: Social accessibility ensures that the school fees are affordable for low-income households in the catchment area.
Which of the statements given above are correct?

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(C) Senior Secondary School – 1.60 to 1.80 Hectares
(D) Neighbourhood Park – 1.00 Hectare

64. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): GIS-based accessibility mapping is a critical tool for promoting equity in urban service distribution.
Reason (R): It allows planners to visually identify "service deserts"—geographical areas populated by vulnerable groups that fall outside the standard catchment radii of public facilities.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. A new township is expanding to accommodate an additional 50,000 residents. Using a standard population catchment of 1 Primary School per 5,000 population, how many new Primary Schools should the town planner provision in the master plan to maintain adequate educational infrastructure?
(A) 2
(B) 5
(C) 10
(D) 20

66. Which of the following statements best describes the principle of inclusive design for children in urban public spaces?
(A) Restricting children's access solely to gated playgrounds to ensure they do not interfere with adult activities.
(B) Ensuring all public seating is sized exclusively for adults to standardize city-wide manufacturing costs.
(C) Incorporating interactive street furniture, safe pedestrian crossings, and natural play elements into the broader urban fabric.
(D) Mandating that children can only use public parks during designated morning hours to ensure their safety.

67. Consider the following statements regarding the location of higher education institutions:
Statement I: Higher education institutions, such as universities and technical colleges, often exhibit a tendency to cluster on the urban periphery rather than the city center.
Statement II: The urban periphery offers larger contiguous land parcels required for campuses at a lower economic rent compared to the central business district.
Which of the statements given above are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

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68. Consider the following statements regarding the distribution of civic infrastructure like post offices in contemporary urban planning:
1. The population norm for standard post offices has increased tenfold due to digital communication.
2. Post offices are increasingly integrated with common service centres (CSCs) to deliver e-governance services.
3. Planning guidelines suggest a tiered hierarchy, ranging from localized delivery offices to city-level head post offices.
4. They are optimally located at major civic nodes to maximize multimodal accessibility.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 2, 3, and 4 only
(C) 1 and 4 only
(D) 3 and 4 only

69. In urban planning, which of the following provides the most accurate definition for "Health Impact Assessment (HIA)"?
(A) A process to judge the potential health effects of a policy, program, or project on a population and the distribution of those effects.
(B) An annual medical check-up mandated for all municipal employees to ensure productivity and public safety.
(C) The financial auditing of private hospitals to ensure they are paying adequate commercial property taxes to the local body.
(D) The structural analysis of old hospital buildings to assess earthquake resilience and general safety standards.

70. Match the type of hospital in List-I with its bed capacity benchmark in List-II:
List I: Type of Hospital
P. Dispensary / Polyclinic
Q. Maternity Home
R. Sub-Divisional / Intermediate Hospital
S. District Hospital
List II: Bed Capacity Benchmark
1. No indoor beds, strictly outpatient
2. 20 - 30 beds
3. 100 - 250 beds
4. 300 - 500 beds
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-3, S-4
(C) P-1, Q-3, R-2, S-4
(D) P-4, Q-2, R-1, S-3

71. A planner is upgrading an Urban Primary Health Centre (UPHC) situated deep within a congested, unorganized slum settlement. Vehicle access is restricted to narrow lanes. What is the most viable strategy for improving emergency medical evacuation infrastructure?
(A) Implementing a localized emergency response system using customized two-wheeler or three-wheeler micro-ambulances.
(B) Demolishing a wide 15-meter corridor directly through the settlement to construct a massive arterial highway for standard vehicles.
(C) Relocating the UPHC 10 kilometers away to the city periphery where land is available for large parking facilities.
(D) Mandating that all slum residents construct private helipads on their roofs to facilitate air-ambulance medical services.

72. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The COVID-19 pandemic significantly influenced subsequent urban planning discourse by emphasizing the necessity of hyperlocal open spaces and decentralized civic amenities.
Reason (R): Lockdowns and travel restrictions demonstrated that centralized city-level mega-parks were inaccessible during crises, while 15-minute neighbourhoods provided essential physical and mental relief.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

73. Which of the following infrastructure elements is typically NOT intended to be accommodated within a standard Neighbourhood Park?
(A) Tot-lots for toddlers and children.
(B) A centralized regional landfill and waste processing plant.
(C) Shaded seating areas for the elderly.
(D) Open grassy lawns for informal recreation.

74. When conducting deprivation mapping for public water supply in a municipality, which of the following methodologies provides the most accurate data for a town planner?
(A) Relying solely on the total capacity of the municipal water treatment plant divided by the city's total population.
(B) Conducting a quick online survey available only to high-income gated communities with internet access.
(C) Utilizing GIS to overlay spatial household connection data, socio-economic ward profiles, and supply pressure logs.
(D) Reviewing historical zoning maps from three decades ago to understand previous infrastructure layouts.

75. Arrange the following steps typically involved in conducting a Health Impact Assessment (HIA) in chronological order:
1. Appraisal (assessing the potential health impacts)
2. Screening (determining if an HIA is needed)
3. Scoping (identifying which health effects to consider)
4. Reporting and Monitoring
(A) 2, 3, 1, 4
(B) 3, 2, 1, 4
(C) 1, 2, 3, 4
(D) 2, 1, 3, 4

76. Consider the following statements regarding Universal Accessibility standards:
1. Ramps must have a gradient no steeper than 1:12 to accommodate manual wheelchairs.

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2. Tactile paving should be strategically used indoors to guide visually impaired users.
3. Accessible washrooms must include inward opening doors to save corridor space.
4. Information desks in public facilities should include lowered counters for wheelchair users.

Which of the statements given above are correct?
(A) 1 and 2 only
(B) 1 and 4 only
(C) 1, 3, and 4 only
(D) 2 and 3 only

77. The manual on water supply and treatment, widely referenced for setting drinking water standards and infrastructure planning in India, is published by which authority?
(A) National Highways Authority of India (NHAI)
(B) Central Public Health and Environmental Engineering Organisation (CPHEEO)
(C) Bureau of Indian Standards (BIS) exclusively
(D) Medical Council of India (MCI)

78. Match the liveability index pillar in List-I with its associated indicator in List-II:
List I: Liveability Index Pillar
P. Institutional
Q. Social
R. Economic
S. Physical
List II: Associated Indicator
1. Municipal financial health and e-governance
2. Health and education outcomes
3. Employment opportunities and cluster development
4. Housing, transport, and solid waste management
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-3, R-2, S-4
(D) P-4, Q-2, R-3, S-1

79. A town planner uses the Gravity Model to predict patient flow between two towns (Town A and Town B) and a central district hospital located in Town C. If Town A has double the population of Town B, and both are equidistant from Town C, the Gravity Model predicts that:
(A) Town A will generate significantly more patient trips to Town C than Town B.
(B) Town B will generate more patient trips to Town C than Town A due to its smaller size.
(C) Town A and Town B will generate the exact same number of patient trips based on distance.
(D) Neither town will interact with Town C based on the standard interactions of the model.

80. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Primary schools are optimally located away from major arterial roads to ensure student safety and reduce noise exposure.
Reason (R): High-speed vehicular traffic on arterial roads poses a significant safety risk to children and increases ambient noise levels in classrooms.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

81. In the context of urban infrastructure execution and civic services in Madhya Pradesh, what is the primary role of the Madhya Pradesh Urban Development Company (MPUDC)?
(A) To strictly regulate private residential real estate pricing and property sales.
(B) To solely manage agricultural land records outside municipal boundaries.
(C) To operate interstate bus services across Madhya Pradesh for regional commuters.
(D) To act as the nodal executing agency for major water supply and sewerage projects.

82. A planner is designing a green buffer zone between a heavy industrial estate and a residential neighborhood. To maximize environmental competency, which of the following planting strategies is most appropriate?
(A) Planting a single row of low-height ornamental flowers to improve aesthetic appeal.
(B) Paving the buffer zone with concrete and placing potted plants to minimize maintenance.
(C) Creating a multi-tiered plantation with

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dense canopy trees and ground cover.
(D) Laying vast expanses of manicured turf grass with no trees to ensure a clear line of sight.

83. Identify the correct pair regarding open spaces and their primary catchment focus:
(A) Housing Area Park – Serves the entire city district, usually accommodating major sports stadiums.
(B) Neighbourhood Park – Focuses on local residents within a 1-2 km radius, accommodating play areas.
(C) Botanical Garden – Typically located within every housing cluster of 5,000 population.
(D) District Park – Intended strictly for heavy commercial warehousing and logistics units.

84. Consider the following statements regarding urban development institutions:
Statement I: Organizations like the All India Institute of Local Self-Government (AIILSG) and the National Institute of Urban Affairs (NIUA) play a pivotal role in capacity building and benchmarking urban civic services across Indian cities.
Statement II: These institutions completely bypass local municipal bodies and directly construct urban infrastructure projects like dams and highways.
Which of the statements given above are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

85. A metropolitan ward has several standalone primary schools operating in dilapidated buildings with no playgrounds. Under the NEP 2020 framework, what is the best case-based urban planning intervention?
(A) Consolidate the smaller schools into an 'Integrated School Complex' to share resources.
(B) Demolish all schools and shift the students to peri-urban boarding schools on the city fringe.
(C) Privatize all the small schools and eliminate public funding for educational infrastructure.
(D) Keep the schools as they are but strictly ban physical education classes to save building space.

86. Which of the following defines the "Walkability Index" of a street or neighbourhood?
(A) A measure of how fast a motorized vehicle can travel through a pedestrian zone.
(B) The total number of private parking spaces available divided by the total length of the street.
(C) A composite metric assessing the safety, comfort, connectivity, and visual interest of the environment.
(D) The percentage of commercial shops selling footwear in a specific municipal district.

87. Which of the following statements regarding the planning norms for cremation and burial grounds is INCORRECT?
(A) They are best situated in the geographic center of high-density commercial districts.
(B) They should be well-connected by motorable roads capable of handling localized traffic surges.
(C) They must be located downstream or away from main municipal water supply sources.
(D) Adequate green buffers should be maintained around their perimeter to screen them from residents.

88. To successfully integrate smart classrooms into an existing public school building, which of the following physical infrastructure upgrades is fundamentally the most critical first step?
(A) Expanding the school's outdoor cricket pitch to meet international tournament standards.
(B) Demolishing the old structure to build a full glass-facade building for aesthetic modernization.
(C) Replacing all standard wooden desks with expensive imported plastic furniture for students.
(D) Upgrading the building's electrical wiring and securing high-speed data connectivity.

89. What is the typical population threshold for establishing a comprehensive City Level Park in an urban area?
(A) 10,000 population

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(B) 50,000 population
(C) 1,00,000 population
(D) 10,00,000 population

90. In the context of designing inclusive public spaces, all of the following are physical barriers for the elderly, EXCEPT:
(A) High curbs at pedestrian crossings without ramped cuts.
(B) Short pedestrian crossing times at traffic signals.
(C) Benches equipped with firm armrests and backrests.
(D) Poorly lit, uneven cobblestone pathways.

91. In Madhya Pradesh, the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) is primarily targeted towards providing financial assistance to Urban Local Bodies (ULBs) for:
(A) Developing heavy industrial zones outside municipal limits for manufacturing.
(B) Subsidizing agricultural fertilizers for peri-urban farmers in rural districts.
(C) Establishing private luxury resorts in tourist destinations across the state.
(D) Augmenting basic civic infrastructure such as roads, drainage, and parks.

92. Which of the following is a correct statement highlighting a core principle of Service Area Analysis?
(A) Network distance based on the street grid provides a more accurate catchment area than a simple radius.
(B) It strictly assumes that citizens will always travel to the farthest facility available regardless of quality.
(C) It maps exclusively the underground layout of sewer pipes without considering human travel patterns.
(D) It is only applicable to commercial retail and has no use in healthcare or educational infrastructure.

93. A planner is reviewing building plans for a proposed secondary school. Which of the following features indicates a FAILURE to apply building safety standards?
(A) The inclusion of outward-opening doors in all classrooms leading to the main corridor.
(B) The use of highly combustible acoustic paneling in the main auditorium to save costs.
(C) The presence of a dedicated, unobstructed fire-tender movement path around the building perimeter.
(D) The installation of anti-skid flooring in all washrooms and laboratories.

94. Identify the INCORRECT pair regarding urban performance indices and their primary managing bodies in the Indian context:
(A) Ease of Living Index – Ministry of Housing and Urban Affairs (MoHUA)
(B) Swachh Survekshan – NITI Aayog exclusively
(C) Municipal Performance Index – Ministry of Housing and Urban Affairs (MoHUA)
(D) Service Level Benchmarks for Urban Services – MoHUA

95. Consider the following statements regarding urban connectivity:
Statement I: Last-mile connectivity strictly refers to the high-speed rail networks connecting two different metropolitan cities.
Statement II: In urban services, poor last-mile connectivity can severely reduce the effective spatial accessibility of a centrally located, well-equipped district hospital.
Which of the statements given above are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

96. A city like Bhopal aims to capitalize on the presence of AIIMS by developing a "Medical Tourism and Healthcare Hub." Which of the following planning interventions would best support this objective?
(A) Zoning the immediate vicinity exclusively for heavy manufacturing to boost local industrial employment.
(B) Banning all private commercial activity within a 10 km radius of the institute to maintain complete silence.
(C) Upgrading transport infrastructure and establishing allied healthcare services in a planned precinct.
(D) Relocating the main railway station closer to the hospital but removing pedestrian

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which a facility draws its users based on distance or travel time.
Service area analysis is a spatial planning technique used to define the reach of public facilities. By utilizing geographic information systems, planners can map exactly which neighborhoods fall within a specific travel time or distance from a clinic or school. This methodology identifies areas that are well-served and highlights gaps where new infrastructure may be needed to ensure equity.

18. (A) 1, 2, and 3 only
Standards for urban open spaces emphasize providing 10 to 12 square meters per person at the city level. Neighborhood parks are generally designed for 15,000 people, ensuring local access to green areas. While green buffers along roads provide environmental benefits, they are excluded from calculations of usable recreational space. There is no strict rule limiting sports facilities to under ten percent.

19. (B) Exceptional spatial accessibility via major arterial roads and integration with public transit networks.
A centralized district hospital must serve a wide region, including both urban and peri-urban wards. The most critical factor for its location is accessibility for emergency vehicles and public transport users. High connectivity via arterial roads ensures that patients from various distant locations can reach the facility quickly, making it a functional hub for secondary and tertiary medical care.

20. (A) P-3, Q-4, R-1, S-2
Service level benchmarks help monitor the performance of municipal utilities through standardized indicators. For water supply, non-revenue water is a key metric for efficiency. Sewerage is assessed by the quality of wastewater treatment. Solid waste management focuses on the extent of waste segregation at the source. Storm water drainage performance is measured by the frequency and severity of local water logging incidents.

21. (A) Universal Accessibility – Limiting facility access strictly to demographic majorities to ensure streamlined and efficient service delivery.
The concept of accessibility in urban planning covers spatial, economic, and social dimensions. Universal accessibility is defined by the inclusion of everyone, including persons with disabilities and the elderly, rather than limiting access to the majority. It ensures that infrastructure is designed for all users regardless of their physical abilities. Restricting access to a demographic majority contradicts the principles of inclusive planning.

22. (A) Both A and R are true and R is the correct explanation of A.
The Rights of Persons with Disabilities Act establishes a legal framework for ensuring all public buildings are barrier-free. This legislation necessitates the implementation of specific design standards, such as ramps and tactile paving, as outlined in the National Building Code. Planners are responsible for enforcing these accessibility audits to ensure that the built environment accommodates the needs of all citizens.

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23. (A) It aims to transform existing Sub-Centres and PHCs into Health and Wellness Centres (HWCs) to deliver comprehensive primary healthcare.
Modern national health initiatives focus on strengthening the primary healthcare tier by upgrading existing facilities into Health and Wellness Centres. These centers are designed to provide a broader range of services beyond maternal and child health, including screening for non-communicable diseases. This infrastructure shift aims to bring holistic and preventive healthcare closer to communities, reducing the burden on higher-level hospitals.

24. (A) 1, 3, 2, 4
Catchment radii for educational facilities are determined by the age and mobility of the students. Nursery schools require the shortest walking distance to ensure child safety and parental convenience. Primary schools have a slightly larger radius, followed by senior secondary schools. Colleges serve the largest geographic areas as older students can travel longer distances using various modes of public and private transport.

104. Consider the following statements regarding the Gravity Model of facility location:
Statement I: In the Gravity Model of facility location, the "mass" variable often represents the size, capacity, or attractiveness of a facility.
Statement II: The model assumes that a citizen's willingness to travel to a facility increases exponentially as the physical distance or travel friction to that facility increases.
Which of the statements given above are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

105. A municipal corporation is attempting to map health vulnerabilities. Using GIS, they overlay respiratory illness incidence with air pollution hotspots and clinic locations. This approach is a practical application of:
(A) Land Readjustment and plot reconstitution.
(B) Deprivation Mapping and Spatial Equity Analysis.
(C) Floor Area Ratio (FAR) optimization.
(D) Cadastral mapping of property boundaries.

106. A town planner is tasked with integrating sports infrastructure. To ensure maximum utilization and financial viability, where should a major sports complex ideally be located?
(A) Distributed piecemeal across small vacant plots in various residential colonies to save space.
(B) Built strictly outside the municipal boundary, at least 20 km from the central city limits.
(C) Consolidated near a major educational hub or district center with strong transit connectivity.
(D) Built entirely underground beneath a busy commercial market to save valuable urban land.

107. Which of the following statements regarding the land area norms for higher educational infrastructure is generally INCORRECT?
(A) Contemporary guidelines encourage vertical expansion and compact campuses in high-density urban areas.
(B) Historical norms required large land parcels for comprehensive standalone universities.
(C) Integrated campuses sharing common amenities help optimize the required land area for facilities.
(D) Land norms for establishing a university in rural areas are much more restrictive than in mega-cities.

108. For urban towns situated in the Narmada River basin in Madhya Pradesh, there is an overarching emphasis on which specific aspect of physical infrastructure planning?
(A) Establishing strict zero liquid discharge protocols and advanced STPs to protect the river.
(B) The construction of high-rise commercial towers directly on the river floodplains for visibility.
(C) Banning all forms of paved road infrastructure within municipal limits to ensure soil drainage.
(D) Encouraging heavy polluting industries to set up near the riverbanks for easy water access.

109. When allocating land for a new District Hospital, a planner must ensure provisions for which of the following ancillary requirements?
(A) Only the outpatient blocks, with no staff housing or residential facilities to save land.
(B) Residential quarters for staff, emergency vehicle parking, waste areas, and a mortuary.
(C) An attached heavy commercial shopping mall to cross-subsidize hospital operational expenses.
(D) An independent runway for fixed-wing aircraft evacuations for all district-level facilities.

110. What is the generally accepted standard walking distance (catchment radius) to locate a Primary School in an urban residential neighbourhood?
(A) 400 meters
(B) 800 meters
(C) 2 kilometers
(D) 5 kilometers

111. Identify the correct pair regarding the functional hierarchy of higher education institutions:
(A) Affiliated Degree College – Provides undergraduate education, catching students from multiple schools.

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ANSWERS

1. (A) 1 and 2 only
The hierarchy of healthcare facilities follows specific population thresholds to ensure effective service delivery. A Health Sub-Centre is the primary interface, serving 5,000 residents in plain areas. Similarly, a Primary Health Centre functions as a referral node for six sub-centres, catering to 30,000 people. These standards facilitate a structured approach to public health management in urban settings.

2. (B) 2 beds per 1,000 population
Urban health infrastructure planning relies on specific benchmarks to determine the adequacy of medical facilities. Standard guidelines for urban development and infrastructure provision suggest a minimum ratio of two hospital beds for every 1,000 residents. This metric helps municipal authorities and planners allocate sufficient land and resources to meet the medical needs of a growing city population.

3. (B) P-2, Q-3, R-4, S-1
Educational facilities are planned based on population catchment sizes to ensure accessibility and resource optimization. Primary schools typically serve 5,000 residents, while senior secondary schools cater to approximately 7,500 people. Integrated schools with hostels require a much larger base of nearly 1,00,000. Higher education colleges are designed for a catchment of at least 1,25,000 people to remain viable.

4. (C) Statement I is true, but Statement II is false.
Health Impact Assessment is a systematic process used to evaluate the potential consequences of urban projects on public wellbeing. It focuses on identifying health risks and benefits before implementation. However, it is not a financial audit or a mandatory fiscal check. Instead, it serves as a qualitative and quantitative tool for planners to create healthier, more sustainable urban environments.

5. (A) Both A and R are true and R is the correct explanation of A.
Decentralized primary care is a fundamental pillar of the National Urban Health Mission, particularly targeting vulnerable slum populations. Locating healthcare facilities near these settlements minimizes spatial distance and transport costs, which are significant barriers to traditional hospital access. This strategy ensures that essential medical services are reachable for residents who face economic constraints and limited mobility.

6. (C) There is a renewed emphasis on hyper-centralized mega-hospitals at the city periphery rather than decentralized neighborhood clinics.
Modern urban health planning has shifted away from focusing solely on large, centralized medical facilities located far from residential areas. The recent global health crisis demonstrated that decentralized clinics and flexible community spaces are more effective for emergency response. Current strategies prioritize neighborhood-level infrastructure to improve resilience, ensure rapid medical intervention, and reduce the burden on major regional hospitals.

7. (A) 2, 4, 1, 3
Recreational spaces are organized in a hierarchy based on their service area and population size. Housing area parks serve the smallest immediate clusters, followed by neighborhood parks. District parks cover larger sections of a city, while city parks cater to the entire metropolitan population. This ascending order ensures that green spaces are distributed logically from local to regional levels.

8. (D) Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)
The establishment of high-end medical institutions like AIIMS Bhopal is a key component of national health infrastructure expansion. This project was carried out under a specific central scheme designed to correct regional imbalances in affordable tertiary healthcare. By creating such institutes, the government aims to provide

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playground spaces into additional residential plots freely.

(D) It transfers the responsibility of building internal roads to the state health department.

118. All of the following are relevant planning factors when determining the location for a new municipal solid waste landfill, EXCEPT:

(A) Wind direction (locating it on the leeward side of the city).

(B) Depth of the local groundwater table to prevent contamination.

(C) Proximity to major historical heritage monuments to attract tourists.

(D) Maintenance of a mandatory non-development buffer zone around the site.

119. A planner is designing a localized civic center block for a neighbourhood of 15,000 people. Which group of facilities is best integrated into this single block to promote convenience?

(A) A local convenience shopping cluster, a sub-post office, a small community room, and an ATM.

(B) A tertiary district hospital, a centralized state jail, and a heavy engineering college.

(C) A regional municipal landfill, a wholesale grain market, and a city-level metropolitan park.

(D) A major interstate railway terminal, an airport link, and a primary school campus.

120. Which of the following is a correct statement highlighting the infrastructural importance of "Avenue Plantation" in urban street design?

(A) It exclusively serves an aesthetic purpose and has no functional utility in urban planning.

(B) It should be discouraged as tree roots inevitably destroy all underground public utilities.

(C) It is only applicable to rural highways and is strictly prohibited within municipal limits.

(D) It helps mitigate the urban heat island effect and provides a physical buffer for pedestrians.

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(B) Technical Institute (ITI/Polytechnic) – Focuses on postgraduate research and broad academic disciplines.
(C) Central University – Restricts admissions exclusively to students residing within a 5 km radius.
(D) Specialized Research Centre – Designed strictly to serve early childhood pre-primary development needs.

112. Consider the following statements regarding urban recreational spaces:
Statement I: While parks are generally meant for passive recreation, aesthetics, and environmental benefits, playgrounds are specifically designated for active physical recreation and sports.
Statement II: Guidelines recommend that playgrounds should be completely paved with concrete to minimize municipal maintenance costs.
Which of the statements given above are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

113. Under the New Education Policy (NEP) 2020, which of the following best defines the concept of an "Integrated School Complex"?
(A) A school that integrates both residential housing for all students and a commercial shopping mall.
(B) A strictly private school that operates across multiple international borders for global education.
(C) An institution that merges basic primary education with heavy industrial vocational manual labor.
(D) A cluster of public schools within a geography managed jointly to share resources.

114. In urban planning, which is the most effective proactive strategy to mitigate health risks associated with water-borne diseases in low-income settlements?
(A) Distributing free bottled water during monsoon seasons to all residents of the informal colony.
(B) Constructing a large, high-end tertiary hospital nearby to handle critical disease cases.
(C) Upgrading the core infrastructure by laying underground sewerage and providing piped water.
(D) Implementing strict municipal fines on residents who contract communicable water-borne diseases.

115. During a spatial analysis for healthcare, a planner observes significant "pedestrian shed overlapping" among three PHCs in a central district, while fringes have no coverage. This indicates:
(A) The health infrastructure is perfectly balanced according to the current city population.
(B) A spatial redundancy in the center, highlighting a need to rationalize facility locations.
(C) The population in the center is immune to diseases, making the overlapping centers redundant.
(D) The peri-urban areas have excessive spatial accessibility that does not require further clinics.

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116. Identify the INCORRECT pair regarding indices used for benchmarking Indian cities:
(A) Swachh Survekshan – Ranks cities primarily on sanitation and solid waste management parameters.
(B) Ease of Living Index – Assesses quality of life, economic ability, and sustainability.
(C) Municipal Performance Index – Evaluates local government across services and finance.
(D) Climate Smart Cities Assessment – Strictly measures the number of digital smartboards in schools.

117. In the context of real estate development in Madhya Pradesh, how does the Real Estate (Regulation and Development) Act (RERA) impact the planning of social infrastructure?
(A) It mandates that developers must deliver all promised common areas and civic amenities.
(B) It strictly forbids developers from building community halls or parks within residential schemes.
(C) It allows developers to convert promised

specialized medical facilities and improve medical education across different states in India.

9. (B) Integrated School Complex – Requires a larger consolidated land parcel to share sports and laboratory facilities.
Site selection for educational infrastructure depends on the functional requirements and the scale of the facility. An integrated school complex combines multiple stages of education, necessitating extensive land for shared resources like playgrounds and labs. Unlike primary schools, which should be located away from busy traffic for safety, these larger complexes serve as regional hubs for diverse academic needs.

10. (A) 1 and 3 only
Recent educational policy reforms emphasize the creation of school complexes to foster resource sharing among clusters of institutions. This approach optimizes the use of libraries, labs, and athletic fields. Additionally, the policy highlights the integration of digital infrastructure and smart technologies to enhance learning. However, it does not mandate the closure of primary schools or restrict private sector involvement.

11. (D) Locating the facility adjacent to heavy industrial zones to utilize vacant land.
Planning for primary schools prioritizes child safety, environmental health, and accessibility. Sites must be chosen to minimize the need for crossing dangerous arterial roads and must ensure proper ventilation and natural light. Locating schools near heavy industrial areas is strictly avoided due to risks from pollution, noise, and industrial hazards, which are detrimental to a healthy learning environment.

12. (A) P-3, Q-1, R-4, S-2
Community facilities are allocated based on specific population norms to ensure equitable distribution across urban areas. Fire stations are generally planned for every 2,00,000 residents, while police stations serve catchments of roughly 90,000 people. Head post offices are required for populations of 2,50,000, and community halls are typically provided for every 1,00,000 citizens to support local social gatherings.

13. (B) Provision of shaded resting areas at regular intervals, non-slip even pathways, and handrails.
Inclusive design for an aging population focuses on safety, comfort, and ease of movement within public spaces. Priorities include installing non-slip surfaces to prevent falls and providing frequent shaded seating for rest. Handrails and even pathways are essential interventions that accommodate the physical needs of the elderly, ensuring that urban parks remain accessible and welcoming for all age groups.

14. (C) A is true but R is false.
The Gravity Model is a widely used tool in spatial planning for determining the optimal location of facilities like hospitals or shopping centers. It suggests that interaction is directly proportional to the size or mass of the locations. However, the model fundamentally states that interaction is inversely proportional to the square of the distance, not directly proportional to the distance itself.

15. (A) It should be located on the leeward side of the city with a mandatory green buffer of dense plantation to mitigate air pollution and visual impact.
Environmental considerations for burial and cremation grounds are critical in urban planning to protect public health and local aesthetics. These sites are ideally placed on the leeward side to ensure smoke and odors are carried away from residential areas. Incorporating a dense green buffer helps screen the facility from view and provides a natural filter for air pollutants and noise.

16. (C) Residential density, street connectivity (intersection density), and land use mix.
Evaluating the walkability of an urban area involves analyzing physical and spatial variables that influence pedestrian movement. Key factors include the density of residential units, the frequency of street intersections for better connectivity, and the diversity of land uses. A balanced mix of these elements encourages walking by reducing travel distances and providing a safe, varied, and interesting pedestrian environment.

17. (D) A GIS-based methodology to determine the spatial extent or geographic boundary from

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footpaths to speed up traffic.

97. When conducting an accessibility audit of an existing urban museum, which of the following demonstrates a competent assessment approach?
(A) Checking only the main entrance for wheelchair access and ignoring upper galleries.
(B) Simply asking the museum management if they feel their building is accessible without physical measurements.
(C) Recommending that disabled visitors be restricted to viewing a video of the museum in the ground-floor lobby.
(D) Evaluating pathways, tactile maps, audio guides, braille signage, and adapted restroom facilities.

98. In which part of the National Building Code (NBC) of India, 2016, are the requirements for a barrier-free built environment for persons with disabilities and the elderly addressed?
(A) Part 6 (Structural Design)
(B) Part 8 (Building Services)
(C) Part 3 (Development Control Rules) and specific annexures
(D) Part 11 (Approach to Sustainability)

99. In Madhya Pradesh, the establishment of "Sanjeevani Clinics" in urban areas aims to emulate successful models of neighbourhood clinics. What is their primary operational goal?
(A) To conduct highly specialized neurosurgeries in slum areas for the resident population.
(B) To provide free, decentralized, accessible primary healthcare and medicines to urban populations.
(C) To function exclusively as veterinary clinics for urban stray animals and livestock.
(D) To serve as administrative offices for municipal tax collection and utility bill processing.

100. Identify the correct pair regarding the mandatory infrastructure provisions for public buildings under accessibility guidelines:
(A) Multilevel Parking – Must reserve at least 10% of spaces exclusively for heavy commercial transport vehicles.
(B) Public Restrooms – Must require a high step to enter to ensure water does not spill out into corridors.
(C) Ramps – Must be built with highly polished marble to enhance the aesthetic appeal.
(D) Auditoriums – Must provide designated wheelchair seating integrated with general seating.

101. In the context of urban service distribution, "Spatial Equity" is defined as:
(A) Distributing facilities geographically so that all residents enjoy comparable access to essential services.
(B) Ensuring that property taxes are collected equally from all city zones regardless of infrastructure quality.
(C) Concentrating all public services in high-income neighborhoods because they generate more municipal revenue.
(D) The equitable distribution of floor area ratio (FAR) across commercial zones to ensure vertical rights.

102. Which of the following is the most optimal site characteristic for locating a large cultural auditorium (capacity 1000+)?
(A) At the dead-end of a narrow residential cul-de-sac with limited vehicular movement.
(B) Inside a heavy industrial estate to muffle the sound generated by various cultural events.
(C) Adjacent to a major arterial road or civic node with adequate transit and parking.
(D) Deep inside a designated eco-sensitive forest buffer to provide a scenic natural backdrop.

103. The manual on water supply and treatment, widely referenced for setting drinking water standards and infrastructure planning in India, is published by which authority?
(A) Detailed structural design and layout of elevated mass rapid transit (Metro rail) stations.
(B) Design parameters for underground sewer networks in high-density urban areas.
(C) Guidelines for the design of sewage treatment plants (STPs) and processing units.
(D) Standards for treated effluent disposal and reuse for non-potable city applications.

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25. (B) 10%
State-level building and development regulations in Madhya Pradesh specify the allocation of land for public amenities in new residential layouts. For any colony development, a minimum of ten percent of the total land area must be reserved exclusively for parks and open spaces. This requirement ensures that residential environments provide adequate green cover and recreational opportunities for the wellbeing of the inhabitants.

26. (B) 1, 3, and 4 only
Integrating digital infrastructure into schools requires high-speed connectivity and specific building modifications to accommodate hardware and power backups. These smart classrooms can significantly reduce educational disparities if combined with effective digital access programs. However, digital tools do not replace the need for physical playgrounds and open spaces, which remain vital for the holistic physical and social development of students.

27. (B) 3 to 5 minutes
Fire safety standards for high-density urban areas prioritize rapid response to minimize damage and loss of life. In high-risk commercial zones, the ideal target for fire services is to reach the site within three to five minutes. This benchmark influences the spatial distribution of fire stations, ensuring they are located close enough to provide timely assistance during emergency situations.

28. (A) P-2, Q-1, R-4, S-3
Civic and cultural facilities have distinct location requirements based on their function. Museums should be centrally located with transit access to attract visitors. Branch post offices are best placed within commercial hubs for convenience. Community halls are ideally embedded in residential clusters near parks for social ease. Electric sub-stations must be isolated from public areas for safety and secured with proper fencing.

29. (C) Statement I is true, but Statement II is false.
The school complex model aims to improve educational quality by pooling administrative and physical resources across multiple nearby institutions. While this involves consolidation, it does not necessarily reduce spatial accessibility for young children. Effective planning ensures that primary learning centers remain localized while benefiting from the shared facilities of the larger complex, such as advanced laboratories, specialized teachers, and diverse athletic equipment.

30. (C) A is true but R is false.
Green belts and avenue plantations are vital components of urban physical infrastructure that serve multiple functional roles. They are not merely for administrative demarcation. These green spaces significantly improve the urban microclimate by providing shade and reducing the heat island effect. Furthermore, they act as natural filters for air pollution and noise, making urban streets more comfortable and healthy for pedestrians.

31. (A) Spatial Accessibility
Even if a health facility is numerically sufficient for a population, physical barriers like railway lines or highways can impede access. When residents are cut off from services due to lack of crossings or direct routes, it represents a failure in spatial accessibility. Effective planning must consider these geographic hurdles to ensure that the physical distance between users and services is easily traversable.

32. (C) To spatially identify geographic pockets or demographic groups lacking adequate access to essential urban services.
Deprivation mapping is a spatial analysis tool used to ensure social and spatial equity in city planning. It involves identifying specific areas or populations that fall outside the service reach of essential infrastructure like water, health, or education. By visualizing these gaps, planners can prioritize investments and interventions in the most underserved regions, ensuring that development benefits all residents.

33. (D) IRC Codes – Geometric design and standards for roads and transport networks.
Different regulatory bodies set standards for various urban domains. The Indian Roads Congress provides the foundational codes for the geometric design, safety, and construction of roads and transport infrastructure. Other manuals like CPHEEO focus on water and sanitation, while the National Building Code covers structural safety. IRC codes are the primary reference for

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engineers and planners designing urban road networks.

34. (B) 1, 3, and 4 only
The Ease of Living Index is a comprehensive framework used to assess the quality of life in Indian cities. It evaluates several dimensions, including social pillars like education and health, along with sustainability and economic opportunities. A significant component is the citizen perception survey, which captures direct feedback from residents. It does not ignore economic ability, as financial health is a core pillar.

35. (B) Public Transport
The national framework for service level benchmarks focuses on monitoring essential municipal services to improve accountability and performance. The four core sectors covered under this framework include water supply, sewerage management, solid waste management, and storm water drainage. While public transport is critical for urban mobility, it is not currently included as one of the four primary sectors in this specific benchmarking system.

36. (A) P-3, Q-4, R-1, S-2
Planners use various models to analyze urban space and service efficiency. The Gravity Model estimates facility catchments based on distance and attractiveness. Pedestrian shed analysis maps the walkability around transit nodes. Accessibility audits are used to check for barrier-free compliance in buildings. Service level benchmarks provide a quantitative way to measure how well municipal utilities are operating and serving the local population.

37. (B) 5 minutes
In transit-oriented development, the pedestrian shed represents the area people are willing to walk to reach a station. A four-hundred-meter radius is a standard planning metric because it corresponds to an average five-minute walk. This distance is considered comfortable for most pedestrians and serves as a benchmark for designing walkable, compact neighborhoods centered around public transportation hubs and essential local services.

38. (C) A is true but R is false.
Private institutions have become major providers of higher education in urban areas, often filling gaps left by the public sector. While this growth is evident, it does not mean that state governments are legally or logically required to prioritize private land monetization over other public interests. The assertion reflects the current market reality, but the reason provided is not a universally accepted planning mandate.

39. (A) Deploying mobile health clinics and strengthening dedicated, well-lit pedestrian and paratransit pathways to local primary health centers.
Addressing last-mile connectivity in healthcare involves making the final segment of the journey to a facility safe and easy. In low-income areas, this is best achieved through mobile clinics that bring care to the doorstep and by improving pedestrian paths. These strategies ensure that residents can reach health centers without facing significant physical or financial hurdles, thereby improving overall community health outcomes.

40. (D) Designing products, environments, and programs to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.
Universal accessibility is a design philosophy that aims to make the built environment inclusive for everyone, regardless of age or physical ability. It goes beyond providing specialized ramps for some and focuses on creating spaces that are inherently easy to use for all. This approach eliminates the need for separate or modified facilities, fostering a more equitable and integrated urban experience for the entire population.

41. (A) 2, 3, 4, 1
Conducting an accessibility audit follows a logical sequence to ensure thorough evaluation. It begins with a pre-audit site familiarization, followed by the physical measurement of architectural elements like doorways and ramps. These measurements are then reviewed against established barrier-free norms to identify deficiencies. Finally, the process concludes with a report offering actionable recommendations and cost estimates for necessary retrofitting and improvements.

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42. (C) Optical Fibre Cable (OFC) network deployed through the Integrated Command and Control Centres (ICCC).
Smart classroom initiatives in modern urban missions rely heavily on advanced digital connectivity. In cities like Bhopal and Indore, the existing optical fiber network, which connects various city services to the Integrated Command and Control Centre, serves as the backbone for high-speed internet in schools. This integrated infrastructure allows for seamless digital learning and administrative efficiency within the public educational system.

43. (B) 1, 2, and 3 only
Cultural infrastructure like museums and auditoriums are key components of city identity and require strategic placement. These facilities are often grouped into cultural nodes with excellent public transit and parking to manage large crowds. Standard norms suggest specific provision rates per million residents. Contrary to being prohibited, these institutions are often vital landmarks within central business districts, drawing people and economic activity.

44. (C) 90,000 to 1,00,000
Planning for public safety involves establishing a hierarchy of police facilities based on population density and administrative needs. A standard police station is typically designed to serve an urban catchment area of approximately 90,000 to 1,00,000 people. This population norm ensures that law enforcement services are reasonably accessible to residents while allowing for efficient administrative and operational control within a defined geographic jurisdiction.

45. (A) P-3, Q-4, R-1, S-2
Social infrastructure planning integrates various concepts to improve quality of life. Creating a barrier-free environment focuses on accessibility for persons with disabilities. The walkability index is used to assess the quality of pedestrian paths. Catchment area analysis helps define the spatial reach of specific facilities. Deprivation mapping is a critical tool for identifying and supporting vulnerable populations who lack access to services.

46. (B) Peri-urban educational hubs generally require minimal supportive infrastructure as they strictly operate as closed systems.
Educational institutions in peri-urban areas often face significant challenges regarding infrastructure. They are not closed systems and actually require robust supportive services, including public transport, reliable utilities, and housing for staff and students. While these areas are attractive due to large land parcels and lower costs, the lack of integrated infrastructure can hinder their effective functioning and accessibility for the urban population.

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47. (A) Both A and R are true and R is the correct explanation of A.
Facilities like community halls and religious buildings often experience surges in visitors during festivals or special events. This localized concentration of people and vehicles can lead to significant traffic congestion and noise in the surrounding area. Planners mitigate these impacts by mandating adequate building setbacks and dedicated parking spaces, ensuring that these essential community spaces do not negatively affect neighborhood mobility.

48. (C) Washrooms with outward-opening doors, grab bars, and a turning radius of at least 1.5 meters.
Barrier-free design standards for public buildings include specific requirements for restrooms to accommodate wheelchair users. Outward-opening doors and a 1.5-meter turning radius provide the necessary space for maneuvering. Additionally, grab bars offer essential support for individuals with limited mobility. These features are mandated by accessibility guidelines to ensure that community centers are inclusive and safely usable by all citizens, including the disabled.

49. (C) Community Health Centre (CHC) – 30 to 50 beds
The health infrastructure hierarchy in India is categorized by bed capacity and service level. A Community Health Centre typically provides thirty to fifty beds and serves as a secondary care facility for a cluster of primary health centers. While PHCs and sub-centers have minimal or no indoor beds, district hospitals are much larger, often containing several hundred beds to provide comprehensive medical services.

areas, this approach integrates child-friendly elements like interactive furniture and safe crossings into the everyday urban landscape. By incorporating natural play features throughout the city, planners can foster physical activity and social interaction, making urban spaces more welcoming for younger residents.

67. (A) Both Statement I and Statement II are true.
Higher education institutions often require extensive land for campuses, laboratories, and student housing. In many cities, these institutions are located on the periphery where large contiguous land parcels are more readily available and affordable. This spatial trend is driven by the high cost of land in central business districts, which makes it economically difficult to establish or expand large-scale academic facilities in the city core.

68. (B) 2, 3, and 4 only
Contemporary planning for civic infrastructure like post offices emphasizes integration with modern digital services and e-governance hubs. These facilities follow a tiered hierarchy from local delivery offices to major city-level headquarters. Strategically locating them at major civic nodes ensures they remain accessible to the public. While digital communication has changed their role, it has not led to a ten-fold increase in the population norms for their provision.

69. (A) A process to judge the potential health effects of a policy, program, or project on a population and the distribution of those effects.
Health Impact Assessment is a proactive planning tool used to evaluate how proposed urban developments might affect the health of residents. It systematically analyzes both positive and negative impacts across different demographic groups. By conducting this assessment, planners can modify projects to minimize health risks and enhance benefits, ensuring that urban growth contributes to the overall wellbeing and equity of the city's entire population.

70. (A) P-1, Q-2, R-3, S-4
Hospitals are classified based on their role and bed capacity within the healthcare hierarchy. Polyclinics and dispensaries are strictly for outpatient services and have no indoor beds. Maternity homes generally provide twenty to thirty beds. Sub-divisional hospitals offer more specialized care with one hundred to two hundred and fifty beds, while large district hospitals serve as major regional hubs with three hundred to five hundred beds.

71. (A) Implementing a localized emergency response system using customized two-wheeler or three-wheeler micro-ambulances.
In densely populated and congested urban areas where traditional ambulances cannot navigate narrow lanes, innovative transport solutions are necessary. Micro-ambulances, such as customized two-wheelers or three-wheelers, provide a practical way to reach patients and evacuate them during medical emergencies. This approach avoids the need for large-scale demolition while significantly improving the responsiveness and accessibility of healthcare services within established but physically constrained informal settlements.

72. (A) Both A and R are true and R is the correct explanation of A.
Recent global events underscored the vital importance of having essential services and recreational spaces within a short distance of residential areas. The concept of the 15-minute neighborhood emerged as a key planning strategy, emphasizing that decentralized, hyperlocal amenities provide better resilience during crises when movement is restricted. This shift has led planners to prioritize local parks and clinics over large, centralized facilities that may be unreachable.

73. (B) A centralized regional landfill and waste processing plant.
Neighborhood parks are intended to provide local residents with space for passive and active recreation, including play areas for children and seating for the elderly. They are essential for community health and social interaction. Conversely, industrial facilities like regional landfills are incompatible with residential recreational zones due to noise, odors, and environmental hazards. Such facilities must be located far from residential neighborhoods in dedicated industrial or peripheral zones.

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district level. A police post or chowki is the most local point of contact. Next is the police station or thana, which has broader jurisdiction. These are overseen by zonal or circle offices, all of which ultimately report to the district police headquarters. This structure ensures coordinated law enforcement and administrative control across the city.

59. (D) Neighbourhood parks and a localized commercial convenience centre.
State planning laws in Madhya Pradesh mandate that large-scale residential developments include essential social and recreational infrastructure. For schemes exceeding ten hectares, developers are required to provide neighborhood parks and local convenience shops within the layout. These provisions ensure that residents have immediate access to green spaces and basic daily goods, fostering the development of self-sufficient and livable residential communities.

60. (A) 1, 2, and 4 only
Benchmarking urban services allows municipal authorities to identify critical gaps in infrastructure and performance. This process encourages competition between cities to improve their liveability scores and service delivery. Furthermore, the data collected often informs state and central funding decisions, linking performance with financial grants. Effective benchmarking uses multiple data sources, including ground-level feedback from citizens, rather than relying solely on remote sensing or satellite imagery.

61. (C) 100%
National service level benchmarks set ambitious targets for essential urban utilities to ensure universal access. For water supply, the primary goal for every urban local body is to achieve one hundred percent coverage of household connections. This target reflects the commitment to providing safe and reliable piped water to all city residents, which is fundamental for public health, social equity, and the overall quality of urban life.

62. (A) P-2, Q-4, R-1, S-3
Inclusive design for urban spaces involves specific architectural interventions to ensure accessibility for all. Public sidewalks require tactile paving to guide the visually impaired, while parking areas must include wider, dedicated bays near entrances for disabled users. Building entrances should feature ramps with gentle gradients, and multi-story public buildings must have elevators equipped with auditory signals and Braille buttons to accommodate diverse physical and sensory needs.

63. (A) Health Sub-Centre – 5.00 Hectares
Land area norms for public facilities are established based on their functional scale and population catchment. While primary and senior secondary schools require substantial land for buildings and playgrounds, a health sub-centre is a small, peripheral unit that does not need five hectares. These smaller health units are usually accommodated on much smaller plots, often under one-tenth of a hectare, within the communities they serve.

64. (A) Both A and R are true and R is the correct explanation of A.
GIS-based mapping is a powerful tool for promoting equity by visualizing the spatial distribution of city services. It allows planners to identify "service deserts"—areas where residents, often from vulnerable groups, are outside the standard reach of health or education facilities. By highlighting these gaps, the technology enables more targeted and equitable allocation of resources, ensuring that essential services are accessible to all geographic areas.

65. (C) 100%
Planning for educational infrastructure requires using standard population-to-facility ratios to ensure adequate service levels. If the norm is one primary school for every 5,000 people, a new population of 50,000 would necessitate the provision of ten new schools. This systematic approach allows town planners to reserve sufficient land and resources in the master plan to accommodate the educational needs of the expanding urban population.

66. (C) Incorporating interactive street furniture, safe pedestrian crossings, and natural play elements into the broader urban fabric.
Inclusive design for children aims to make the entire city a safe and engaging environment for them. Rather than restricting play to gated

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like pathways and restrooms, as well as sensory aids like tactile maps, audio guides, and braille signage. A competent approach ensures that people with diverse disabilities—whether physical, visual, or hearing-related—can fully navigate and experience the facility. Simply checking the main entrance or providing limited ground-floor access is insufficient for true inclusivity.

98. (C) Part 3 (Development Control Rules) and specific annexures
The National Building Code of India provides a comprehensive regulatory framework for all aspects of building design and construction. Issues related to a barrier-free built environment for the elderly and persons with disabilities are primarily addressed in Part 3, which covers development control rules. This section, along with detailed annexures, specifies the technical requirements for ramps, elevators, and other features that ensure inclusive and accessible public and private buildings.

99. (B) To provide free, decentralized, accessible primary healthcare and medicines to urban populations.
Sanjeevani Clinics in Madhya Pradesh are designed to provide essential healthcare services directly within urban neighborhoods. These clinics offer free consultations, diagnostic tests, and medicines, bringing primary care closer to the people. By focusing on localized service delivery, they aim to reduce the need for residents to visit overcrowded district hospitals for minor illnesses and preventive care, thereby improving the overall health and wellbeing of urban communities.

100. (D) Auditoriums – Must provide designated wheelchair seating integrated with general seating.
Accessibility guidelines for public buildings mandate that gathering spaces like auditoriums be inclusive for everyone. This includes providing designated spaces for wheelchair users that are integrated with the regular seating, rather than being isolated. Other guidelines, such as ensuring flush thresholds for restrooms and slip-resistant surfaces for ramps, are also essential. These standards ensure that people with disabilities can participate in social and cultural events on an equal basis with others.

101. (A) Distributing facilities geographically so that all residents enjoy comparable access to essential services.
Spatial equity in urban planning is the principle of ensuring that public resources and services are distributed fairly across all parts of a city. This means that regardless of where someone lives, they should have roughly equal access to schools, hospitals, and parks within a reasonable distance or travel time. Achieving spatial equity is vital for social justice and helps prevent the marginalization of specific neighborhoods or demographic groups.

102. (C) Adjacent to a major arterial road or civic node with adequate transit and parking.
Large cultural facilities like auditoriums generate significant volumes of traffic during performances and events. To ensure efficient operation and minimize disruption to residential areas, they should be located near major arterial roads and public transport hubs. Providing adequate on-site parking is also essential. This strategic placement ensures that the facility is easy to reach for a city-wide audience while maintaining the smooth flow of urban traffic.

103. (A) Detailed structural design and layout of elevated mass rapid transit (Metro rail) stations.
Technical manuals for urban infrastructure provide the detailed standards required for complex engineering projects. These documents guide the design and construction of large-scale systems, ensuring they meet safety and efficiency benchmarks. Whether for water treatment or mass transit systems like metro rail stations, these manuals offer essential protocols for structural layouts and operational facilities. Adhering to these established standards is critical for the long-term resilience and functionality of city-wide infrastructure networks.

104. (C) Statement I is true, but Statement II is false.
The Gravity Model is a mathematical tool used to estimate the level of interaction between two locations. In facility planning, the "mass" represents the attractiveness or capacity of a center. However, the model fundamentally assumes that the willingness to travel decreases

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74. (C) Utilizing GIS to overlay spatial household connection data, socio-economic ward profiles, and supply pressure logs.
Deprivation mapping for water supply requires a sophisticated analysis of spatial and socio-economic data. By using GIS to combine information on household connections, water pressure, and the economic status of different wards, planners can accurately pinpoint where services are failing. This evidence-based approach is far more effective than relying on simple averages or outdated maps, as it reveals the true extent of inequality in urban service delivery.

75. (A) 2, 3, 1, 4
The process of conducting a Health Impact Assessment involves several structured stages. It begins with screening to decide if an assessment is necessary, followed by scoping to define the range of health issues to be studied. The appraisal phase then analyzes the potential impacts in detail. Finally, the findings are reported, and the project is monitored to ensure that health-related recommendations are effectively implemented and maintained over time.

76. (B) 1 and 4 only
Universal accessibility standards specify precise architectural requirements to accommodate all users. Ramps should have a maximum gradient of 1:12 to be safe for manual wheelchairs, and public counters should include lowered sections for people using wheelchairs. While tactile paving is important, its indoor use is specific, and accessible washroom doors should open outward to ensure that a person inside can be reached in case of a fall or emergency.

77. (B) Central Public Health and Environmental Engineering Organisation (CPHEEO)
Technical standards for water supply and sanitation infrastructure in India are established by the Central Public Health and Environmental Engineering Organisation. This body publishes comprehensive manuals that guide municipal engineers and planners on everything from water treatment processes to the design of distribution networks. These guidelines are the primary reference for ensuring that urban utility systems are safe, efficient, and capable of meeting public health standards.

78. (A) P-1, Q-2, R-3, S-4
Liveability indices evaluate cities across several core pillars using specific indicators. The institutional pillar focuses on governance and municipal finance. The social pillar measures outcomes in health and education. The economic pillar assesses job opportunities and cluster development, while the physical pillar looks at infrastructure like housing, transport, and waste management. Together, these indicators provide a holistic view of the quality of life and administrative performance in urban areas.

79. (A) Town A will generate significantly more patient trips to Town C than Town B.
The Gravity Model predicts the volume of interaction between two locations based on their population size and the distance between them. If two towns are at the same distance from a hospital, the town with the larger population will naturally generate a higher number of trips. This mathematical relationship helps planners estimate the demand for services and allocate resources where the population-driven need is greatest.

80. (A) Both A and R are true and R is the correct explanation of A.
Locating primary schools away from major arterial roads is a fundamental safety principle in urban planning. Arterial roads carry high volumes of fast-moving traffic, which poses a severe risk to young children. Additionally, the constant noise from these roads can disrupt the learning environment. By placing schools on quieter local streets, planners can ensure a safer, more peaceful setting that is conducive to both child safety and effective education.

81. (D) To act as the nodal executing agency for major water supply and sewerage projects.
The Madhya Pradesh Urban Development Company serves as a specialized agency for implementing large-scale civic infrastructure projects across the state. Its primary focus is on managing and executing significant water supply and sewerage schemes to improve urban service levels. By centralizing the execution of these complex technical projects, the company helps urban local bodies upgrade their core utilities and meet the growing demands of their populations.

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50. (C) Statement I is true, but Statement II is false.
Spatial accessibility in education refers to the physical proximity of a school to the students' homes, ideally within a comfortable walking distance. This is a key spatial planning goal. However, social accessibility is not primarily about school fees; that falls under economic accessibility. Instead, social accessibility relates to ensuring that the facility is inclusive and free from any form of social discrimination or bias.

51. (B) 1, 3, and 4 only
The Indian Roads Congress sets the technical benchmarks for the design and safety of urban road networks. These standards provide guidelines for geometric features, cycle tracks, and traffic calming measures, especially in sensitive areas like school zones. Far from removing footpaths, IRC standards emphasize the importance of dedicated pedestrian infrastructure to ensure safe and efficient movement for all road users in a city.

52. (D) Clustering both facilities near the sector's civic node with direct access to an arterial road for rapid emergency response.
Emergency services like health centers and police stations must be strategically located to maximize their effectiveness. Placing them near a civic node with direct access to major arterial roads allows for the fastest possible response times across the sector. This clustering also improves visibility and accessibility for the public, making these essential services easier to reach during both routine visits and urgent crises.

53. (A) P-1, Q-4, R-3, S-2
Maximum walking distances for different facilities are tailored to the mobility of the target users. Primary schools and neighborhood parks are typically located within 800 to 1,000 meters of residences. Pre-primary or nursery schools require a much closer proximity of about 400 to 500 meters to ensure the safety of young children. Local convenience shops are usually planned within a 500-meter radius for easy daily access.

54. (C) Single-entry bottleneck corridors to tightly control and monitor all student and staff movement.
Building safety standards for schools, as outlined in the National Building Code, focus on ensuring rapid and safe evacuation during emergencies. Designing facilities with single-entry bottlenecks is highly dangerous as it creates congestion and prevents quick exit during fires or other hazards. Instead, safety norms mandate multiple wide exits, fire alarms, and structural resilience to protect students and staff from various environmental risks.

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55. (A) Both A and R are true and R is the correct explanation of A.
Avenue plantations along urban roads are more than just aesthetic additions; they are functional infrastructure components. By acting as natural barriers, they reduce the impact of vehicular noise and emissions on the surrounding environment. Furthermore, the shade provided by trees significantly improves the pedestrian experience and mitigates the heat island effect, thereby encouraging walking and enhancing the overall walkability of the city.

56. (D) Network Analysis
When planning for emergency services like fire stations, simple circular buffers are often inaccurate because they do not account for the actual street grid and traffic conditions. Network analysis is a much more effective GIS tool for this purpose, as it calculates travel times based on real-world road connections, speed limits, and potential delays. This allows planners to determine the true reach of emergency response teams.

57. (B) To deliver Comprehensive Primary Health Care (CPHC) closer to the community, covering maternal health and non-communicable diseases.
The transformation of primary health facilities into Health and Wellness Centres is a key strategy for improving public health outcomes. These centers are designed to offer a wide range of services, including diagnostic tests and treatment for chronic conditions, right at the community level. This decentralized approach ensures that essential healthcare is accessible to all, reducing the need for patients to travel long distances for basic medical needs.

58. (A) 1, 3, 4, 2
Urban police administration follows a clear hierarchy from the most localized units to the

level recreational facilities, such as large water bodies, botanical gardens, and extensive trails, which are not feasible to provide at the smaller neighborhood or housing area level.

90. (C) Benches equipped with firm armrests and backrests.
Inclusive design for the elderly involves removing physical barriers and providing supportive features in public spaces. While high curbs and short crossing times are significant hurdles for those with limited mobility, well-designed benches are actually a helpful intervention. Benches with armrests and backrests provide necessary support for sitting and standing, making parks and streets more accessible and comfortable for older citizens and people with physical challenges.

91. (D) Augmenting basic civic infrastructure such as roads, drainage, and parks.
The Chief Minister Urban Infrastructure Development Scheme in Madhya Pradesh is specifically designed to provide financial support for essential city services. It allows urban local bodies to fund the construction and improvement of roads, drainage systems, and recreational parks. This scheme plays a vital role in helping municipalities address infrastructure backlogs and improve the overall liveability and basic amenities available to residents across the state's urban centers.

92. (A) Network distance based on the street grid provides a more accurate catchment area than a simple radius.
Service area analysis is most effective when it reflects real-world travel patterns. While a simple radius provides a quick estimate, network distance—which follows the actual layout of streets and paths—gives a far more accurate picture of how people reach a facility. This approach accounts for physical barriers and the directness of routes, allowing planners to better understand the true accessibility of healthcare, education, and other essential urban services.

93. (B) The use of highly combustible acoustic paneling in the main auditorium to save costs.
Fire safety in educational buildings is a paramount concern, and using highly combustible materials for interiors is a significant failure in meeting building standards. The National Building Code mandates the use of fire-resistant materials to prevent the rapid spread of flames and toxic smoke during an emergency. Prioritizing cost savings over fire safety in public gathering spaces like auditoriums puts the lives of students and staff at severe risk.

94. (B) Swachh Survekshan – NITI Aayog exclusively Urban performance indices in India are managed by various central government bodies to promote better city management. The Ease of Living Index and the Municipal Performance Index are initiatives of the Ministry of Housing and Urban Affairs. Similarly, the Swachh Survekshan, which ranks cities on cleanliness and waste management, is also managed by the Ministry of Housing and Urban Affairs, rather than being an exclusive project of NITI Aayog.

95. (D) Statement I is false, but Statement II is true.
Last-mile connectivity refers to the final leg of a journey from a transit hub or a local neighborhood to an essential service like a hospital. It is not about inter-city high-speed rail. Poor infrastructure in this final segment, such as broken footpaths or lack of local transport, can make even a well-equipped central facility inaccessible for many residents. Ensuring smooth last-mile access is critical for the effective delivery of urban services.

96. (C) Upgrading transport infrastructure and establishing allied healthcare services in a planned precinct.
To develop a specialized healthcare hub around major institutions like AIIMS, urban planning must focus on creating a supportive ecosystem. This involves improving road and transit connectivity to ensure patients can easily reach the area from distant regions. Additionally, zoning for allied services like diagnostic centers, pharmacies, and short-stay housing for families helps create a comprehensive and efficient medical precinct that can support medical tourism and regional health needs.

97. (D) Evaluating pathways, tactile maps, audio guides, braille signage, and adapted restroom facilities.
A thorough accessibility audit must evaluate all aspects of the built and informational environment. This includes physical elements

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82. (C) Creating a multi-tiered plantation with dense canopy trees and ground cover.
A multi-tiered plantation is the most effective strategy for creating a functional green buffer between industrial and residential zones. Using a combination of tall canopy trees, shrubs, and ground cover provides a dense physical barrier that significantly reduces noise, traps industrial dust, and filters air pollutants. This structured approach to planting maximizes both environmental benefits and visual screening, creating a healthier transition zone between incompatible land uses.

83. (B) Neighbourhood Park – Focuses on local residents within a 1-2 km radius, accommodating play areas.
Park categories are defined by their size and the distance from which they draw visitors. A neighborhood park is designed to serve a local population within a one to two-kilometer radius, providing accessible green space and playgrounds for daily use. Unlike city or district parks, which serve much larger regions, these local parks are essential for the immediate wellbeing and social life of residential communities within the urban fabric.

84. (C) Statement I is true, but Statement II is false.
Organizations like the National Institute of Urban Affairs play a vital role in urban development by providing research, policy support, and training for local governments. They help cities benchmark their services and improve administrative capacity. However, these institutions do not bypass municipal bodies to construct large infrastructure like dams. Instead, they work alongside government agencies to enhance the planning and management of urban systems across the country.

85. (A) Consolidate the smaller schools into an 'Integrated School Complex' to share resources.
In dense urban areas where individual schools lack essential facilities like playgrounds, consolidating them into an integrated school complex is an effective strategy. This approach allows multiple schools to share administrative functions and physical resources, such as modern laboratories and athletic fields. By pooling resources, the quality of education and the range of facilities available to students can be significantly improved without requiring vast new land parcels.

86. (C) A composite metric assessing the safety, comfort, connectivity, and visual interest of the environment.
The walkability index is a qualitative and quantitative measure used to evaluate how conducive an urban area is to walking. It considers several factors beyond just the presence of sidewalks, including how safe pedestrians feel from traffic, the comfort provided by shade and seating, and the directness of paths. High walkability scores indicate an environment that encourages active transport, which benefits both public health and urban sustainability.

87. (A) They are best situated in the geographic center of high-density commercial districts.
Planning for cremation and burial grounds requires careful consideration of environmental and social impacts. These facilities should be located away from city centers and downstream from water supplies to prevent contamination. Locating them in the heart of high-density commercial districts is incorrect, as it would cause traffic congestion and negative psychological impacts. Instead, they should be well-connected but situated in peripheral areas with adequate green screening and buffers.

88. (D) Upgrading the building's electrical wiring and securing high-speed data connectivity.
The successful implementation of digital learning tools in schools depends on a robust technical foundation. Before installing smartboards or computers, it is essential to ensure that the building's electrical systems can handle the increased load and provide a stable power supply. Additionally, high-speed data connectivity is critical for accessing online resources. Without these fundamental infrastructure upgrades, even the most advanced educational technology cannot function effectively or reliably.

89. (D) 10,00,000 population
City-level parks are the largest category in the urban green space hierarchy, designed to serve the entire metropolitan area. These parks typically require a population threshold of approximately one million people to justify their scale and maintenance. They provide regional-

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as the distance or travel time increases. This principle of "distance decay" is a core part of spatial analysis, helping planners understand how distance influences people's choice of where to go.

105. (B) Deprivation Mapping and Spatial Equity Analysis.
Using GIS to analyze the relationship between disease incidence, environmental hazards, and the location of health facilities is a direct application of deprivation mapping. This technique allows planners to see where health risks are highest and where services are lacking. By identifying these unserved and vulnerable areas, authorities can implement targeted public health interventions and improve spatial equity, ensuring that resources are directed toward the communities that need them most.

106. (C) Consolidated near a major educational hub or district center with strong transit connectivity.
Major sports complexes require significant land and benefit from being located near high-demand areas like educational hubs. Placing these facilities near district centers with excellent public transport ensures they are accessible to a wide range of users, from students to general citizens. This consolidated and well-connected location strategy maximizes the utilization of expensive sports infrastructure and supports the financial viability of the complex through higher attendance and community participation.

107. (D) Land norms for establishing a university in rural areas are much more restrictive than in mega-cities.
Planning norms for educational institutions vary by context, with rural areas generally having less restrictive land requirements due to the higher availability and lower cost of land. In contrast, urban norms often emphasize compact and vertical design to account for land scarcity. While historical standards favored large campuses, contemporary urban planning encourages institutions to share resources and optimize land use, making the requirements in dense cities more challenging to meet.

108. (A) Establishing strict zero liquid discharge protocols and advanced STPs to protect the river.
For cities located within critical river basins like the Narmada, environmental protection is a primary planning priority. This involves implementing rigorous wastewater treatment standards, including advanced sewage treatment plants and zero liquid discharge protocols for industries. These measures are essential to prevent river pollution, protect the ecosystem, and ensure the long-term sustainability of the regional water source, which is vital for the health and economy of the surrounding urban areas.

109. (B) Residential quarters for staff, emergency vehicle parking, waste areas, and a mortuary.
A district hospital is a complex institution that requires more than just clinical space. To function effectively, the site must accommodate essential ancillary facilities like parking for emergency vehicles, secure areas for medical waste management, and a mortuary. Additionally, providing residential quarters for medical and support staff ensures they are available for emergencies, making the facility more resilient and capable of providing continuous, high-quality care to the regional population.

110. (B) 800 meters
Standard urban planning norms establish a maximum walking distance for primary schools to ensure they are easily accessible to children. A radius of eight hundred meters is generally considered a comfortable and safe walking distance for young students and their parents. Maintaining this benchmark throughout residential neighborhoods ensures that educational facilities are well-distributed, reducing the need for long commutes and promoting a more walkable, kid-friendly urban environment.

111. (A) Affiliated Degree College – Provides undergraduate education, catching students from multiple schools.
Degree colleges serve as a higher level in the educational hierarchy, drawing students from several different secondary schools across a larger geographic area. These institutions focus on providing undergraduate education in various disciplines. Unlike primary schools, which have very localized catchments, colleges are planned

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to serve a wider population, requiring better transit connectivity and larger campus facilities to accommodate the diverse academic needs of older students from multiple neighborhoods.

112. (C) Statement I is true, but Statement II is false.
Urban planning distinguishes between parks and playgrounds based on their primary function. Parks are designed for passive recreation, environmental benefits, and aesthetics, while playgrounds are dedicated to active sports and physical activity. However, it is incorrect to suggest that playgrounds should be completely paved with concrete. Modern standards favor permeable, safe surfaces that allow for drainage and provide a cushioned environment for physical activities, reducing the risk of injuries to users.

113. (D) A cluster of public schools within a geography managed jointly to share resources.
The integrated school complex model is a key policy reform aimed at improving the quality of public education. By grouping several nearby schools together under a single administrative or physical umbrella, institutions can share expensive resources like modern science labs, libraries, and athletic facilities. This approach optimizes the use of limited urban land and public funds, ensuring that students in all schools within the cluster have access to high-quality facilities and specialized teaching.

114. (C) Upgrading the core infrastructure by laying underground sewerage and providing piped water.
Improving public health in low-income urban areas is most effectively achieved through proactive infrastructure upgrades. By providing reliable piped water and underground sewerage systems, municipal authorities can significantly reduce the incidence of water-borne diseases. These core utilities eliminate the primary sources of contamination and improve sanitation within the community. This long-term structural intervention is far more effective and sustainable than temporary measures like distributing bottled water or imposing fines.

115. (B) A spatial redundancy in the center, highlighting a need to rationalize facility locations.
When several healthcare facilities have overlapping service areas while other parts of the city remain unserved, it indicates an inefficient distribution of infrastructure. This spatial redundancy means resources are concentrated in one area, leading to potential underutilization of some centers while other populations face barriers to access. Planners use this analysis to rationalize locations, potentially relocating or consolidating services to ensure a more equitable and efficient city-wide health network.

116. (D) Climate Smart Cities Assessment – Strictly measures the number of digital smartboards in schools.
Benchmarking indices are designed to measure specific aspects of urban performance and sustainability. The Climate Smart Cities Assessment framework evaluates how well cities are managing environmental risks and reducing their carbon footprint through various sectors like energy, transport, and waste. It is a comprehensive environmental tool and is not limited to measuring classroom technology. Such indices help cities track their progress toward global sustainability goals and identify areas for improvement.

117. (A) It mandates that developers must deliver all promised common areas and civic amenities.
Real estate regulations play a significant role in ensuring that residential developments include the social infrastructure promised in their plans. Developers are legally required to complete and handover all common areas, such as community halls, parks, and playgrounds, to the residents. This accountability prevents developers from neglecting social amenities in favor of purely commercial goals, ensuring that new residential colonies provide a decent quality of life and adequate recreational space for inhabitants.

118. (C) Proximity to major historical heritage monuments to attract tourists.
Selecting a site for a municipal landfill involves rigorous environmental and health criteria. Factors like wind direction, groundwater depth, and the maintenance of a non-development buffer are critical to prevent pollution and protect

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residential areas. However, proximity to heritage monuments is not a planning factor for a landfill; in fact, landfills should be located far from such cultural sites to avoid negative visual impacts and potential damage to historic structures.

119. (A) A local convenience shopping cluster, a sub-post office, a small community room, and an ATM.
Integrating various localized services into a single civic center promotes convenience and social interaction within a neighborhood. For a population of fifteen thousand, a cluster that includes basic shopping, a post office, and a community hall provides essential amenities within easy walking distance. This type of mixed-use civic node reduces the need for long trips and serves as a focal point for the community, enhancing the overall functionality and social cohesion of the neighborhood.

120. (D) It helps mitigate the urban heat island effect and provides a physical buffer for pedestrians.
Avenue plantations are a vital element of sustainable urban street design. Beyond their visual appeal, they perform important environmental functions by providing shade and cooling the urban environment, which helps mitigate the heat island effect. Additionally, rows of trees act as a physical and psychological buffer between pedestrians on the sidewalk and fast-moving vehicles on the road, making streets safer, quieter, and more comfortable for walking and other active transport.

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2. It introduced the concept of a "Slum Free City Plan of Action" (SFCPoA).
3. It strictly mandated the eviction of all slums without property rights.
4. It provided property rights to slum dwellers to ensure tenure security.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, 3, and 4

30. Under the Census of India classification, what is the minimum population size generally required for a compact area to be identified as a slum (Identified Slum) if it is poorly built and lacks basic amenities?
(A) 100 persons or about 20 households
(B) 300 persons or about 60 households
(C) 500 persons or about 100 households
(D) 1000 persons or about 200 households

31. Which of the following statements is correct regarding community-led slum upgrading models?
(A) They completely eliminate the need for any government funding or intervention.
(B) They empower local residents to participate in planning and maintenance of services.
(C) They prioritize top-down planning approaches without local consultation.
(D) They focus exclusively on large-scale mechanized construction of high-rise tenements.

32. Consider the following statements:
Assertion (A): Providing tenure security is considered a foundational step in slum upgrading.
Reason (R): Secure tenure encourages slum dwellers to invest their own savings into improving their housing structures and living environment.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

33. A town planner finds that a slum is situated along a major natural drain that floods annually, posing severe health and safety risks. Which slum rehabilitation framework is most appropriate to apply?
(A) Relocation and Resettlement (R&R) to a safe nearby zone
(B) In-situ incremental housing
(C) Transfer of Development Rights to the slum dwellers on the same site
(D) Provision of density bonuses to private developers on the drain edge

34. The "Madhya Pradesh Gandi Basti Unmoolan Tatha Sudhar Adhiniyam" (MP Slum Clearance and Improvement Act) primarily deals with which of the following?
(A) Providing free agricultural land to urban slum dwellers
(B) The establishment of SEZs in peri-urban slums
(C) The declaration of slum areas, their improvement, and clearance
(D) Funding large-scale commercial malls in slum areas

35. Arrange the following national urban housing and slum upgrading schemes in the chronological order of their launch:
1. Valmiki Ambedkar Awas Yojana (VAMBAY)
2. Basic Services to the Urban Poor (BSUP)
3. Rajiv Awas Yojana (RAY)
4. Pradhan Mantri Awas Yojana - Urban (PMAY-U)

(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 3, 2, 1, 4

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36. Identify the INCORRECT statement regarding livelihoods and social infrastructure in slum redevelopment:
(A) Relocation often disrupts established informal economic networks and livelihoods of slum dwellers.
(B) In-situ redevelopment helps in preserving existing community ties and social capital.
(C) Effective rehabilitation frameworks must incorporate livelihood restoration strategies.
(D) Social infrastructure like anganwadis and health clinics are secondary and should be

(C) Congestion, obsolescence, homelessness, and un-serviceable katcha houses
(D) Slum households, rented houses, and non-notified squatter settlements

7. Which of the following statements correctly describes the concept of "Incremental Housing"?
(A) Fully completed housing units provided with modern residential amenities
(B) Policy of demolishing old housing stock to build high-rise towers
(C) Finance model where the EMI increases over the period of the loan
(D) Core unit provision allowing occupants to expand it as resources permit

8. Consider the following statements:
Assertion (A): Group housing developments are generally more efficient in land utilization compared to individually plotted developments.
Reason (R): Group housing permits shared common amenities, consolidated open spaces, and optimized internal circulation networks on a single large parcel of land.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

9. An urban planner is tasked with designing a mixed-use residential layout. To maximize net residential density without increasing the building footprint, which of the following interventions is most conceptually appropriate?
(A) Increasing the minimum plot setback requirements
(B) Increasing the allowable number of storeys and reducing unit sizes
(C) Decreasing the permissible Floor Area Ratio (FAR)
(D) Converting multi-family walk-up apartments into single-family plotted units

10. Under the Madhya Pradesh Bhumi Vikas Niyam, 2012, what is the generally specified minimum plot size for Economically Weaker Section (EWS) housing in plotted development?
(A) 20 square meters
(B) 30 square meters
(C) 40 square meters
(D) 50 square meters

11. Arrange the following housing typologies in the general chronological order of their historical emergence as dominant forms in Indian urban planning practice:
1. Traditional courtyard houses
2. Industrial chawls
3. Walk-up apartment blocks (Housing Boards)
4. High-rise integrated townships
(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 3, 1, 4, 2

12. Identify the INCORRECT statement regarding housing layout standards and parameters:
(A) Front setbacks are typically mandated to ensure adequate light, ventilation, and future road widening.
(B) Net residential density is always numerically higher than gross residential density for the same neighborhood.
(C) A higher Floor Area Ratio (FAR) automatically ensures higher population density regardless of dwelling unit size.
(D) Maximum ground coverage regulations aim to ensure adequate open space for percolation and recreation.

13. In affordable housing terminology, what does the "Affordability Index" primarily measure?
(A) Ratio of construction material costs to the general inflation rate
(B) Ratio of total affordable units to the total slum population in a city
(C) Ratio of government subsidy to the private investment in a project
(D) Ratio of household monthly housing expenditure to gross monthly income

14. Match the affordable housing concepts in List I with their definitions in List II:
List I: (Affordable Housing Concept)
P. Cross-subsidisation
Q. Inclusionary zoning
R. In-situ redevelopment
S. Land pooling
List II: (Definition)

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Assertion (A): The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (LARR) Act, 2013 makes land acquisition for large housing projects more complex and expensive.
Reason (R): The Act mandates Social Impact Assessments, consent requirements, and enhanced compensation up to four times the market value in rural areas.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

45. A landowner surrenders a portion of their land for a master plan road widening. The local authority compensates them by allowing them to build additional floor area on the remaining portion of their plot. This is a practical application of:
(A) Land Pooling
(B) Transfer of Development Rights (TDR)
(C) Eminent Domain
(D) Floor Space Index (FSI) / FAR Incentive

46. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, which authority is primarily responsible for the preparation of the Development Plan (Master Plan) for a planning area?
(A) Real Estate Regulatory Authority (RERA)
(B) Madhya Pradesh Housing Board
(C) Director of Town and Country Planning
(D) State Election Commission

47. Arrange the following legal milestones in Indian housing and urban development in chronological order:
1. Enactment of the Model Tenancy Act
2. Enactment of the Real Estate (Regulation and Development) Act
3. Enactment of the Right to Fair Compensation and Transparency in Land Acquisition Act
4. Notification of the National Urban Housing and Habitat Policy

(A) 4, 3, 2, 1
(B) 3, 4, 1, 2
(C) 4, 2, 3, 1
(D) 2, 3, 4, 1

48. Identify the INCORRECT statement regarding the building permission and plan approval process:
(A) Building permissions are required to ensure compliance with zoning regulations, FAR, and safety codes.
(B) Local authorities review architectural plans, structural stability certificates, and ownership documents before approval.
(C) Deviation from the approved plan during construction can lead to compounding fees or demolition.
(D) The implementation of Automated Building Plan Approval Systems (ABPAS) has decreased transparency and increased processing time.

49. Under the PMAY-U guidelines, which vertical specifically aims to leverage the potential of private developers for slum redevelopment using land as a resource?
(A) In-Situ Slum Redevelopment (ISSR)
(B) Beneficiary-led individual house construction/enhancements (BLC)
(C) Affordable Housing in Partnership (AHP)
(D) Credit Linked Subsidy Scheme (CLSS)

50. Match the PMAY-U vertical in List I with its core characteristic in List II:
List I: (PMAY-U Vertical)
P. ISSR
Q. CLSS
R. AHP
S. BLC
List II: (Core Characteristic)
1. Interest subvention on home loans for EWS/LIG/MIG
2. Financial assistance to individual eligible families to build new houses on their own land
3. Providing housing in collaboration with States/UTs/Private agencies where 25% houses are for EWS
4. Using land as a resource to provide houses to slum dwellers

(A) P-1, Q-2, R-4, S-3
(B) P-4, Q-3, R-1, S-2
(C) P-4, Q-1, R-3, S-2
(D) P-3, Q-1, R-2, S-4

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22. The Atal Ashraya Yojana is an affordable housing initiative implemented primarily by which of the following agencies in Madhya Pradesh?
(A) Madhya Pradesh Road Development Corporation
(B) Madhya Pradesh Tourism Board
(C) Madhya Pradesh Housing and Infrastructure Development Board
(D) Narmada Valley Development Authority

23. Arrange the following steps of an affordable housing Land Pooling project in the correct chronological sequence:
1. Reconstitution of land plots and allocation of affordable housing zones
2. Declaration of intention and notification of the land pooling area
3. Transfer of reconstituted plots back to original landowners
4. Provision of trunk infrastructure by the development authority
(A) 2, 1, 4, 3
(B) 1, 2, 3, 4
(C) 2, 4, 1, 3
(D) 4, 2, 1, 3

24. Identify the INCORRECT statement regarding transit-oriented affordable housing:
(A) It is typically discouraged due to the high land values near transit stations.
(B) It aims to lower the combined housing and transportation cost burden for low-income groups.
(C) It enhances spatial equity by providing better access to employment centers for marginalized communities.
(D) It requires proactive policy interventions like land value capture and zoning relaxations to be financially viable.

25. According to the Census of India, which of the following best defines a "Notified Slum"?
(A) An area of at least 300 population without safe drinking water
(B) Areas notified as 'Slum' by government bodies under any specific Act
(C) Areas recognized as a slum by the local body but not formally notified
(D) A cluster of at least 60 households living in temporary katcha structures

26. Match the slum upgrading terminology in List I with its description in List II:
List I: (Terminology)
P. In-situ upgrading
Q. Relocation
R. Tenure security
S. Non-notified slum
List II: (Description)
1. Legal protection against forced eviction
2. A settlement lacking formal legal recognition by the government
3. Improving existing housing and infrastructure in the current location
4. Shifting slum dwellers to a new site due to hazardous current location
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-4, R-3, S-2

27. Identify the INCORRECT pair regarding basic service provision in slum upgrading:
(A) Solid waste management – Open burning of waste within the slum periphery
(B) Water supply – Provision of individual household tap connections or community standposts
(C) Sanitation – Construction of individual household latrines or community toilet blocks
(D) Access roads – Paving of internal pathways and provision of street lighting

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28. Which of the following is NOT a primary criterion for opting to relocate a slum rather than undertaking in-situ upgrading?
(A) The slum is located on an environmentally hazardous site (e.g., floodplains, steep slopes)
(B) The slum is located on land required for critical public infrastructure (e.g., railway tracks, highway expansion)
(C) The slum consists of residents who have lived there for more than 20 years
(D) The slum is located on an ecologically sensitive zone (e.g., protected forest land)

29. Consider the following statements regarding the Rajiv Awas Yojana (RAY):
1. It aimed to encourage States to tackle the problem of slums in a definitive manner.

1. Mandating a percentage of new development to be reserved for low-income housing
2. Rebuilding slum settlements on the same land they currently occupy
3. Charging higher prices to high-income groups to offset lower prices for low-income groups
4. Consolidating fragmented land parcels for unified infrastructure development

(A) P-1, Q-3, R-2, S-4
(B) P-3, Q-2, R-1, S-4
(C) P-3, Q-1, R-2, S-4
(D) P-2, Q-1, R-4, S-3

15. Identify the INCORRECT pair regarding target income groups and affordable housing carpet area norms under central schemes:
(A) EWS (Economically Weaker Section) – Upto 30 sq.m carpet area
(B) HIG (High Income Group) – Upto 50 sq.m carpet area
(C) LIG (Low Income Group) – Upto 60 sq.m carpet area
(D) MIG-I (Middle Income Group I) – Upto 160 sq.m carpet area

16. Which of the following is NOT a recognized strategy for cost reduction in affordable housing projects?
(A) Utilization of fly ash bricks and prefabricated building components
(B) Implementation of density bonuses and tradable development rights
(C) Standardization of housing designs and modular construction techniques
(D) Mandating low-density plotted developments over multi-story group housing

17. Consider the following statements about the Affordable Rental Housing Complexes (ARHC) scheme:
1. It is a sub-scheme under the Pradhan Mantri Awas Yojana - Urban (PMAY-U).
2. It exclusively targets rural agricultural laborers migrating during harvest seasons.
3. It utilizes existing government-funded vacant housing stock by converting them into rental units.
4. It provides incentives to private and public entities to construct ARHCs on their own available vacant land.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

18. What is the standard widely accepted benchmark for the EMI-to-income ratio to determine housing affordability for a household?
(A) 10% to 15%
(B) 25% to 30%
(C) 45% to 50%
(D) 60% to 75%

19. Which of the following statements is correct regarding the implementation of density bonuses in affordable housing?
(A) Granting more floor space if a portion is reserved for affordable housing
(B) Reducing the allowable FAR to discourage luxury housing developments
(C) Mandating that all new constructions have identical population density
(D) Restricting building heights to promote decentralized suburban growth

20. Consider the following statements:
Assertion (A): Public-Private Partnership (PPP) models are increasingly utilized in the delivery of affordable housing.
Reason (R): PPP models help leverage private sector efficiencies, finance, and technology while utilizing public sector land and regulatory facilitation.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

21. An urban local body decides to grant additional FAR to a developer in exchange for constructing EWS units on-site. This is a practical application of which policy tool?
(A) Transfer of Development Rights (TDR)
(B) Incentive Zoning / Density Bonus
(C) Inclusionary Zoning
(D) Exclusionary Zoning

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omitted to save project costs.

37. The Real Estate (Regulation and Development) Act, 2016 (RERA) defines "carpet area" as:
(A) Total built-up area including external walls and balconies
(B) Usable area excluding external walls, services, and balconies
(C) Super built-up area including shared common area proportions
(D) Total plot area upon which the apartment block is built

38. Match the housing policies/institutions in List I with their primary mandate in List II:
List I: (Policy/Institution)
P. Model Tenancy Act 2021
Q. LARR Act 2013
R. National Housing Bank
S. RERA 2016
List II: (Primary Mandate)
1. Regulating the real estate sector and protecting home buyers
2. Balancing the rights and interests of landlords and tenants
3. Fair compensation, transparency in land acquisition, and rehabilitation
4. Operating as the principal agency to promote housing finance institutions
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-1, R-4, S-2
(C) P-2, Q-3, R-4, S-1
(D) P-2, Q-4, R-3, S-1

39. Identify the INCORRECT pair regarding urban development tools:
(A) Floor Area Ratio (FAR) – Regulates the bulk and intensity of development on a plot
(B) Transfer of Development Rights (TDR) – Allows unutilized FAR of one plot to be used on another plot
(C) Density norms – Controls the number of persons or dwelling units per unit of land area
(D) Accommodation Reservation – Mandates the complete acquisition of private land by the state without compensation

40. Which of the following was NOT a key focus area of the National Urban Housing and Habitat Policy (NUHHP) 2007?
(A) Halting the process of urbanization to prevent rural-to-urban migration
(B) Promoting Public-Private Partnerships for housing delivery
(C) Focusing on 'Affordable Housing for All' with special emphasis on EWS and LIG
(D) Encouraging sustainable habitat development using green technologies

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41. Consider the following statements regarding the Transfer of Development Rights (TDR) mechanism:
1. TDR separates the development potential of a land parcel from the land itself.
2. The owner of a heritage property cannot be granted TDR under any circumstances.
3. TDR certificates can typically be traded or sold in the open market.
4. The 'Receiving Zone' where TDR is utilized usually experiences an increase in permissible FAR.
Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

42. Under the Real Estate (Regulation and Development) Act, 2016, what percentage of the amount realized for the real estate project from allottees must be deposited in a separate bank account to cover the cost of construction and land?
(A) 50%
(B) 60%
(C) 70%
(D) 80%

43. Which of the following statements correctly describes the primary objective of the Model Tenancy Act, 2021?
(A) Establishes Rent Authorities to formalize the rental market
(B) Freezes all rent rates to protect tenants from hikes indefinitely
(C) Mandates that all rental properties be managed by housing boards
(D) Eliminates the requirement for written agreements for short-term leases

44. Consider the following statements:

(BLC) project under PMAY-U in the correct chronological order:
1. Uploading of DPR (Detailed Project Report) on PMAY MIS portal
2. Conducting city-wide demand survey and identifying eligible beneficiaries
3. Release of final financial installment to the beneficiary
4. Geotagging of the construction at the plinth/ lintel level

(A) 2, 1, 4, 3
(B) 1, 2, 3, 4
(C) 2, 4, 1, 3
(D) 4, 2, 1, 3

60. Identify the INCORRECT statement regarding the implementation of PMAY in Madhya Pradesh:
(A) The state has actively used the ABPAS (Automated Building Plan Approval System) to expedite approvals for PMAY projects.
(B) Direct Benefit Transfer (DBT) is utilized to ensure transparency in fund transfer to beneficiaries.
(C) Urban Local Bodies (ULBs) play a minimal role, as the entire execution is managed directly by the Central Government.
(D) Beneficiary identification involves linking Aadhaar numbers to eliminate duplicate applications.

61. In the context of housing policies, what does the term "Inclusionary Zoning" refer to?
(A) Zoning that allows heavy industries to be located in residential areas
(B) Zoning that restricts development strictly to high-income luxury housing
(C) Inclusion of all urban green spaces into a single centralized system
(D) Mandate requiring developers to reserve units for low-income households

62. Match the institutional body in Madhya Pradesh in List I with its relevant function in List II:
List I: (Institutional Body)
P. MP RERA
Q. MP Housing Board (MPHB)
R. MP Town & Country Planning (T&CP)
S. Urban Local Bodies (ULBs)
List II: (Relevant Function)
1. Preparation of Master Plans and layout approvals
2. Direct execution of housing and infrastructure projects
3. Issuance of building permissions and basic service delivery
4. Registration of real estate projects and redressal of homebuyer grievances

(A) P-1, Q-2, R-4, S-3
(B) P-4, Q-1, R-2, S-3
(C) P-4, Q-2, R-1, S-3
(D) P-2, Q-4, R-1, S-3

63. Identify the INCORRECT pair regarding Light House Projects (LHPs) under the Global Housing Technology Challenge (GHTC-India):
(A) LHP Indore – Prefabricated Sandwich Panel System
(B) LHP Lucknow – Bamboo and Mud based vernacular construction
(C) LHP Rajkot – Monolithic Concrete Construction using Tunnel Formwork
(D) LHP Chennai – Precast Concrete Construction System

64. Which of the following is NOT a recognized challenge in the implementation of the In-Situ Slum Redevelopment (ISSR) vertical of PMAY-U?
(A) Obtaining consent from the majority of slum dwellers
(B) Requirement of temporary transit accommodation during the construction phase
(C) Reluctance of private developers due to project viability and market risks
(D) High availability of vacant government land within city centers

65. Consider the following statements about convergence in PMAY-U projects:
1. PMAY-U guidelines mandate convergence with the Swachh Bharat Mission (SBM) for the provision of individual household toilets.
2. Convergence with the AMRUT mission is encouraged to ensure piped water supply and sewerage connections to PMAY houses.
3. PMAY-U strictly prohibits any funding convergence with the Ujjwala Yojana for LPG connections.

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51. Identify the INCORRECT pair regarding the eligibility criteria under Pradhan Mantri Awas Yojana - Urban (PMAY-U):
(A) Age limit for CLSS – Beneficiary must be a senior citizen above 60 years of age
(B) Beneficiary Family – Comprises husband, wife, and unmarried children
(C) Ownership Condition – Beneficiary should not own a pucca house anywhere in India
(D) Income Limit for EWS – Up to ₹3 lakh annual household income

52. Which of the following is NOT a mandated technology or digital intervention used in the implementation of PMAY-U?
(A) Geotagging of houses at various stages of construction using the Bhuvan app
(B) Direct Benefit Transfer (DBT) via the Public Financial Management System (PFMS)
(C) Management Information System (MIS) for tracking beneficiary progress
(D) Blockchain-based cryptocurrency transactions for contractor payments

53. Consider the following statements regarding the Beneficiary-Led Construction (BLC) vertical of PMAY-U:
1. It is meant for individuals who already own a piece of land but do not have a pucca house.
2. The central assistance provided under this vertical is ₹1.5 lakh per EWS house.
3. Funds are released directly to the builder or contractor identified by the government.
4. Construction progress is tracked via geotagged photographs before the release of subsequent funding installments.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

54. What is the quantum of central assistance provided per EWS house under the Affordable Housing in Partnership (AHP) vertical of PMAY-U?
(A) ₹1.0 lakh
(B) ₹1.5 lakh
(C) ₹2.0 lakh
(D) ₹2.67 lakh

55. Which of the following statements correctly describes the process of "Demand Survey" under PMAY-U?
(A) Assessment of commercial real estate demand by private developers
(B) Survey of available building materials to estimate local project costs
(C) Annual financial audit of the state housing board's accounts
(D) Exercise by ULBs to identify beneficiaries and city housing needs

56. Consider the following statements:
Assertion (A): The Credit Linked Subsidy Scheme (CLSS) vertical of PMAY-U is fundamentally different in implementation from the other three verticals (ISSR, AHP, BLC).
Reason (R): CLSS is implemented as a Central Sector Scheme directly through Primary Lending Institutions (Banks/HFCs) rather than through State Governments and Urban Local Bodies.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

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57. An EWS family living in a non-notified slum on prime government land does not own the land and lacks formal tenure. Which PMAY-U vertical is structurally best suited for a government intervention to rehabilitate this community on the same site?
(A) Beneficiary-Led Construction (BLC)
(B) In-Situ Slum Redevelopment (ISSR)
(C) Credit Linked Subsidy Scheme (CLSS)
(D) PMAY-Gramin

58. Madhya Pradesh has implemented the "Mukhyamantri Awas Yojana" which is designed to converge and complement which vertical of the national housing mission for landless poor?
(A) PMAY-U ISSR
(B) PMAY-U BLC / PMAY-G
(C) PMAY-U CLSS
(D) ARHC Scheme

59. Arrange the following implementation steps of a typical Beneficiary-Led Construction

CHAPTER 08
Housing Development and Policies

1. Which of the following best defines "plotted housing" development in the context of urban planning?
(A) Subdivision of land into individual parcels for independent dwelling units
(B) Multiple dwelling units built on an undivided plot under common ownership
(C) Vertical development using high FAR to house families in a single building
(D) Continuous rows of units sharing common walls and a collective title deed

2. Match the housing typologies in List I with their characteristic features in List II:
List I: (Housing Typology)
P. Walk-up apartments
Q. High-rise low-density
R. Row housing
S. Chawl system
List II: (Characteristic Feature)
1. Shared common walls with independent ground access
2. Single-room tenements with shared sanitary facilities
3. Maximum height limited to 4-5 storeys without elevator requirements
4. Large open ground spaces with tall vertical building footprints
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-1, R-4, S-2
(C) P-3, Q-4, R-1, S-2
(D) P-1, Q-4, R-3, S-2

3. Identify the INCORRECT pair regarding density parameters and housing standards:
(A) Ground Coverage – Total built-up area of all floors divided by the total plot area
(B) Gross Residential Density – Total population divided by total residential area including local roads and parks
(C) Net Residential Density – Total population divided by the area of residential plots exclusively
(D) Floor Area Ratio (FAR) – Total built-up area divided by the total plot area

4. Which of the following is NOT a characteristic tradeoff associated with high-rise, high-density housing development?
(A) Increased efficiency in the provision of centralized physical infrastructure
(B) Lower per-unit land cost but higher per-unit construction cost
(C) Increased requirements for structural safety, fire fighting, and mechanical services
(D) Enhanced ground-level social interaction and spontaneous community surveillance

5. Consider the following statements regarding Transit-Oriented Housing Development (TOD):
1. It promotes high-density, mixed-use residential development within walking distance of a transit station.
2. It strictly enforces segregation of commercial and residential zones to reduce transit congestion.
3. It aims to reduce dependence on private vehicles by providing enhanced non-motorized transport infrastructure.
4. It typically applies relaxed Floor Area Ratio (FAR) norms within the transit influence zone.
Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

6. The "Technical Group on Urban Housing Shortage" estimation methodology primarily calculates the housing shortage by considering which of the following components?
(A) Homelessness, unacceptable housing, and structural building obsolescence
(B) Vacant houses, katcha structures, and unauthorized residential colonies

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4. Convergence ensures that houses constructed are provided with essential civic infrastructure, making them habitable.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

66. What is the maximum loan tenure permitted for interest subvention under the Credit Linked Subsidy Scheme (CLSS) of PMAY-U?
(A) 10 years
(B) 15 years
(C) 20 years
(D) 30 years

67. Which of the following statements is correct regarding the implementation of RERA in Madhya Pradesh (MP RERA)?
(A) It mandates that all ongoing projects that have not received a completion certificate must be registered with the Authority.
(B) MP RERA is applicable only to commercial real estate projects, exempting all residential housing.
(C) It allows promoters to advertise and sell plots before the project is registered, provided an application has been submitted.
(D) It restricts homebuyers from filing complaints unless the project cost exceeds ₹50 Crores.

68. Consider the following statements:
Assertion (A): The promotion of alternative building materials like fly ash bricks is encouraged in affordable housing policies.
Reason (R): Fly ash bricks are environmentally sustainable, utilize industrial waste, and often reduce the overall cost of construction compared to traditional red clay bricks.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

69. An urban local body needs to assess the physical condition of the housing stock in a city without conducting a new primary survey. Which secondary data source is most technically appropriate for this specific task?
(A) The National Family Health Survey (NFHS)
(B) The Census of India H-Series (Housing Tables)
(C) The Economic Survey of India
(D) The Swachh Survekshan ranking report

70. The "Bhu-Adhikar Yojna" (Chief Minister's Residential Land Rights Scheme) in Madhya Pradesh is specifically aimed at:
(A) Providing free high-rise apartments to all urban slum dwellers
(B) Digitizing land records of all commercial properties in major cities
(C) Giving free plots of land to landless rural families for construction
(D) Reclaiming encroached agricultural land for industrial development

71. Consider the following statements:
Statement I: The National Housing Bank (NHB) is the apex financial institution for housing in India, established to promote housing finance institutions.
Statement II: NHB provides direct housing loans to individual homebuyers at subsidized interest rates.
Which of the above statement(s) is/are correct?
(A) Both Statement I and Statement II are correct
(B) Both Statement I and Statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct

72. Identify the INCORRECT statement regarding the Pradhan Mantri Awas Yojana - Gramin (PMAY-G) implementation in Madhya Pradesh:
(A) Beneficiaries are identified based solely on the BPL (Below Poverty Line) list prepared in 1991.
(B) The minimum size of the house constructed under PMAY-G is mandated to be 25 sq.m with a hygienic cooking space.
(C) It provides financial assistance directly to the beneficiaries' bank accounts.
(D) It encourages the use of local materials and culturally appropriate housing designs.

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and open spaces, group housing maximizes the utility of available land while providing comprehensive facilities for all residents within the development.

9. (B) Increasing the allowable number of storeys and reducing unit sizes
To maximize net residential density while maintaining a fixed building footprint, planners increase the number of floors or reduce the size of individual dwelling units. This strategy accommodates more households within the same horizontal space. Decreasing unit sizes directly increases the number of units per hectare, while vertical expansion leverages the same footprint to support a larger overall population.

10. (B) 30 square meters
The Madhya Pradesh Bhumi Vikas Niyam, 2012, mandates specific minimum standards for affordable housing developments to ensure basic livability for low-income groups. For plotted developments targeting the Economically Weaker Section, the regulation generally specifies a minimum plot size of 30 square meters. This standard allows for sufficient construction area while keeping land costs accessible for eligible beneficiary families.

11. (A) 1, 2, 3, 4
Urban housing in India evolved from traditional courtyard houses, followed by industrial chawls built for migrant labor during the early industrial era. Post-independence, state housing boards introduced walk-up apartment blocks to manage urban growth. Recently, high-rise integrated townships have emerged as the dominant form, driven by technological advancements, private sector participation, and the need for high-density development in modern metropolitan areas.

12. (C) A higher Floor Area Ratio (FAR) automatically ensures higher population density regardless of dwelling unit size
A higher floor area ratio increases the total built-up area but does not automatically ensure higher population density. Density depends on the average size of dwelling units provided within that floor area. For example, a high FAR dedicated to large luxury apartments results in lower population density compared to the same FAR used for many small, compact affordable housing units.

13. (D) Ratio of household monthly housing expenditure to gross monthly income
The Affordability Index is a critical metric used to determine the financial accessibility of housing for different income groups. It measures the ratio of a household's monthly housing expenditure, including rent or mortgage payments, to their gross monthly income. A common benchmark is that housing remains affordable if it does not exceed thirty percent of the household's total income, preventing financial overextension.

14. (C) P-3, Q-1, R-2, S-4
Cross-subsidisation involves using profits from high-income units to lower prices for low-income housing. Inclusionary zoning mandates a specific percentage of new developments be reserved for affordable units. In-situ redevelopment focuses on rebuilding slums at their current location to preserve social networks. Land pooling consolidates fragmented parcels to provide unified infrastructure, returning serviced land to original owners while creating space for housing.

15. (B) HIG (High Income Group) – Upto 50 sq.m carpet area
Under national housing missions, the High Income Group category is not restricted to a carpet area of fifty square meters. Such small dimensions are typically reserved for Economically Weaker Sections or Low Income Groups. HIG units are generally much larger and are often not subject to specific maximum area limits within affordable housing schemes, which prioritize the EWS, LIG, and MIG categories.

16. (D) Mandating low-density plotted developments over multi-story group housing
Mandating low-density plotted developments increases per-unit land and infrastructure costs, making housing less affordable. Conversely, utilizing sustainable materials like fly ash bricks, implementing density bonuses, and adopting modular construction techniques are recognized strategies for reducing costs. These methods maximize land efficiency and leverage industrial efficiencies to lower the overall financial burden on developers and beneficiaries in affordable housing projects.

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(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

81. A city plans to implement a Slum Rehabilitation Scheme using the PPP model. The developer is allowed to construct high-end commercial spaces on 40% of the slum land, provided they build free housing for the slum dwellers on the remaining 60%. This is an example of:
(A) In-situ Slum Redevelopment using land as a primary resource
(B) Transfer of Development Rights between separate land parcels
(C) Land Acquisition via Eminent Domain for public utility projects
(D) Credit Linked Subsidy for individual homebuyer bank loans

82. The Madhya Pradesh Urban Development Company (MPUDC) primarily focuses on:
(A) Regulating rental agreements between landlords and tenants
(B) Issuing licenses to real estate agents and project brokers
(C) Executing urban infrastructure projects converging with housing
(D) Conducting the decadal population census within the state

83. Consider the following statements:
Statement I: The National Urban Housing and Habitat Policy 2007 advocates for the government to act primarily as a 'Provider' rather than a 'Facilitator' of housing.
Statement II: The policy emphasizes shifting the burden of housing construction entirely to state housing boards.
Which of the above statement(s) is/are correct?
(A) Both Statement I and Statement II are correct
(B) Both Statement I and Statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct

84. Identify the INCORRECT statement regarding the Technical Group Report on Housing Shortage:
(A) It accounts for the qualitative aspect of housing by including congested and unacceptable houses.
(B) It considers households living in non-serviceable katcha houses as part of the shortage.
(C) It provides a statistical framework that informs national housing policies like PMAY.
(D) It states that the majority of the urban housing shortage in India is concentrated in the High-Income Group (HIG).

85. In the context of urban planning and building regulations, what does FAR stand for?
(A) Federal Area Restriction
(B) Floor Area Ratio
(C) Facility Allocation Rate
(D) Fixed Asset Registration

86. Match the slum categories in List I with their defining legal/administrative status in List II:
List I: (Slum Category)
P. Recognized slums
Q. Notified slums
R. Identified slums
S. Squatter settlements
List II: (Defining Status)
1. Formally declared as slums under relevant acts/statutes
2. Informal settlements lacking any formal legal title or recognition, often on public land
3. Identified by Census, having at least 300 population and lacking basic amenities
4. Not formally declared, but acknowledged by ULBs or State agencies
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-3, R-1, S-2
(C) P-4, Q-1, R-3, S-2
(D) P-3, Q-1, R-4, S-2

87. Identify the INCORRECT pair regarding the Pradhan Mantri Awas Yojana - Urban (PMAY-U) Technology Sub-Mission:
(A) Objective – To adopt modern and green technologies in housing
(B) GHTC-India – Challenge to identify

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73. What does "Tenure Security" fundamentally mean in the context of slum rehabilitation and housing policies?
(A) Structural stability of a building against seismic hazards
(B) Legal protection of residents against arbitrary forced eviction
(C) Guarantee of continuous municipal water supply to settlements
(D) Long-term financial security provided by fixed-rate housing loans

74. Match the state-level institutions in Madhya Pradesh in List I with their primary digital portals/systems in List II:
List I: (Institution)
P. Revenue Department
Q. Urban Development & Housing Dept
R. MP RERA
S. PMAY-U MP
List II: (Digital Portal/System)
1. ABPAS (Automated Building Plan Approval System)
2. RCMS (Revenue Case Management System)
3. RERA Web Portal for Project Registration
4. Bhuvan Geotagging integration
(A) P-1, Q-2, R-4, S-3
(B) P-2, Q-1, R-3, S-4
(C) P-2, Q-3, R-1, S-4
(D) P-3, Q-1, R-2, S-4

75. Identify the INCORRECT pair regarding housing typologies and their general characteristics:
(A) Row housing – Units are detached on all sides, zero shared walls, low density
(B) High-rise apartments – Elevator dependent, high structural cost, higher gross density potential
(C) Walk-up apartments – Generally limited to G+3 or G+4, no elevator required, medium density
(D) Plotted development – High ground coverage efficiency, vertical expansion limited by individual owner

76. Which of the following is NOT a fundamental component of a comprehensive Slum Survey and Mapping methodology?
(A) Household socio-economic baseline survey
(B) Physical mapping of slum boundaries and internal pathways using GIS/DGPS
(C) Mandatory confiscation of informal commercial assets found during the survey
(D) Profiling of available basic municipal services and infrastructure deficiencies

77. Consider the following statements regarding the role of HUDCO (Housing and Urban Development Corporation):
1. It provides financial assistance for housing and urban infrastructure projects.
2. It operates strictly as a private sector commercial bank.
3. It has a mandate to support economically weaker sections and low-income groups.
4. It provides consultancy services for housing layout and architectural design.
Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

78. Under the URDPFI guidelines, what is the generally recommended percentage of plotted residential area to be dedicated to open spaces/ parks in a neighborhood layout?
(A) 2% to 5%
(B) 10% to 15%
(C) 30% to 35%
(D) 50% to 60%

79. Which of the following statements correctly describes "Mixed-Use Residential Development"?
(A) Zoning that prohibits commercial activity in a residential zone
(B) Model blending residential and commercial uses in one space
(C) Practice of mixing different structural materials in construction
(D) Conversion of agricultural land into purely residential plots

80. Consider the following statements:
Assertion (A): The digitisation of land records is a crucial reform for facilitating affordable housing.
Reason (R): Clear and digitized land titles reduce litigation, streamline the property transaction process, and make it easier for buyers to access institutional housing finance.

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Statement II: Geotagging physically halts construction if the beneficiary is found to have changed the paint color of the house.
Which of the above statement(s) is/are correct?
(A) Both Statement I and Statement II are correct
(B) Both Statement I and Statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct

96. Identify the INCORRECT statement regarding the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (LARR) Act, 2013:
(A) It applies when the government acquires land for its own use, hold and control.
(B) It requires consent from 80% of affected families for land acquisition for private companies.
(C) It provides for the establishment of a Rehabilitation and Resettlement Authority.
(D) It mandates a Social Impact Assessment (SIA) for all land acquisitions, without any exemptions.

97. What does the term "Cross-subsidisation" imply in housing project economics?
(A) Using market-rate units to subsidize affordable units in a project
(B) Utilizing international donor funds to subsidize all housing units
(C) Transferring agricultural subsidies into housing finance accounts
(D) Process of canceling subsidies for high-income groups entirely

98. Match the Central/State housing scheme in List I with its core target demographic or objective in List II:
List I: (Housing Scheme)
P. PMAY - Gramin
Q. ARHCs
R. PMAY - Urban (CLSS)
S. CM Bhu-Adhikar Yojna (MP)
List II: (Target Demographic/Objective)
1. Urban migrants and industrial workers seeking rental accommodation
2. Rural households seeking to build new pucca houses
3. Middle and Low-income urban households seeking home loan interest subsidies
4. Rural landless families needing residential plots
(A) P-1, Q-2, R-4, S-3
(B) P-2, Q-3, R-1, S-4
(C) P-2, Q-1, R-3, S-4
(D) P-3, Q-1, R-4, S-2

99. Identify the INCORRECT pair regarding housing finance institutions:
(A) HUDCO – A cooperative society that exclusively builds rural mud houses
(B) National Housing Bank (NHB) – Apex level regulatory and refinancing institution
(C) Housing Finance Companies (HFCs) – Specialized institutions providing mortgage loans directly to consumers
(D) Commercial Banks – Offer home loans as part of priority and non-priority sector lending

100. Which of the following is NOT a characteristic feature of "Cooperative Housing"?
(A) Members pool their resources to acquire land and construct housing units.
(B) The society retains ownership of the land and common areas, while members hold shares linked to specific dwelling units.
(C) It eliminates the profit margin typically charged by private real estate developers.
(D) The individual member has full unilateral authority to sell the common community hall without society approval.

101. Consider the following statements regarding the preparation of a "Slum Free City Plan of Action" (SFCPoA):
1. It involves the spatial mapping of all slums in the city.
2. It classifies slums into tenable and semi-tenable categories for upgrading or relocation.
3. It requires the formulation of investment requirements for slum rehabilitation.
4. It was introduced under the Swachh Bharat Mission (SBM) exclusively.
Which of the statements given above are correct?
(A) 1, 2, and 3

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innovative mainstream technologies
(C) Vulnerability Atlas – Used for ensuring disaster-resilient designs
(D) Light House Projects – Buildings using conventional brick techniques

88. Which of the following is NOT an advantage of Prefabricated/Precast building technology in affordable housing?
(A) Elimination of the need for skilled labor or specialized machinery
(B) Significant reduction in total construction time and delivery
(C) Better quality control via component factory manufacturing
(D) Reduction in on-site construction waste and environmental noise

89. Consider the following statements about the role of Urban Local Bodies (ULBs) in affordable housing:
1. They are responsible for implementing the master plan and zoning regulations.
2. They play a key role in identifying beneficiaries for state and central housing schemes.
3. They process and grant building permissions and occupancy certificates.
4. They have the sole authority to amend the Real Estate (Regulation and Development) Act.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

90. According to the Reserve Bank of India (RBI) guidelines, loans granted to individuals up to a certain limit in metropolitan and other centers for purchase/construction of a dwelling unit are classified under:
(A) Non-Performing Assets
(B) Priority Sector Lending
(C) Corporate Finance
(D) Unsecured Microfinance

91. Which of the following statements correctly describes a "Chawl" housing form?
(A) Multi-story structure with single rooms and shared facilities
(B) Modern, high-rise luxury apartment complex with shared pools
(C) Single-family detached bungalow with a large private garden
(D) Temporary structure built with plastic sheets in rural areas

92. Consider the following statements:
Assertion (A): Self-help housing and incremental development are effective strategies for low-income housing provision.
Reason (R): They allow households to build and expand their homes progressively according to their fluctuating financial capacity and immediate needs.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

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93. A developer possesses a plot of 1000 sq.m with a baseline FAR of 2.0. The local government offers a density bonus of 0.5 FAR for reserving 20% of the built-up area for EWS. What is the maximum permissible total built-up area if the developer opts for the bonus?
(A) 2000 sq.m
(B) 2500 sq.m
(C) 3000 sq.m
(D) 3500 sq.m

94. In Madhya Pradesh, the "Chief Minister Urban Infrastructure Development Scheme" (CMUIDS) is primarily utilized by urban local bodies to:
(A) Subsidize agricultural electricity bills for rural farmers
(B) Pay the monthly salaries of state government employees
(C) Fund municipal infrastructure projects that complement housing
(D) Privatize all existing government housing boards and agencies

95. Consider the following statements:
Statement I: The implementation of PMAY-U requires the integration of spatial data through Geotagging to monitor the physical progress of housing units.

(A) Shifting slum dwellers to the city outskirts to sell vacant land
(B) Upgrading existing slums by providing community toilets and roads
(C) Distributing empty plots to slum dwellers for self-construction
(D) Using commercial value of land to cross-subsidize formal housing

110. Match the housing terminologies in List I with their contextual meaning in List II:
List I: (Housing Terminology)
P. Beneficiary identification
Q. Demand survey
R. Geotagging
S. Public-Private Partnership
List II: (Contextual Meaning)
1. Attaching spatial coordinates and time-stamped images to track construction progress
2. An assessment conducted to gauge the actual requirement of housing in an area
3. The process of verifying applicant eligibility against scheme criteria
4. Collaboration between government and private developers to execute housing projects
(A) P-1, Q-2, R-3, S-4
(B) P-3, Q-1, R-2, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-3, R-1, S-4

111. Identify the INCORRECT pair regarding urban densities:
(A) Low-rise low-density – Plotted single-family bungalows
(B) Low-rise high-density – Traditional organic core city settlements (e.g., Walled cities)
(C) High-rise high-density – Modern integrated multi-story group housing complexes
(D) High-rise low-density – Squatter settlements on the urban periphery

112. Which of the following is NOT a statutory function of the Madhya Pradesh Real Estate Regulatory Authority (MP RERA)?
(A) Registering real estate projects and real estate agents
(B) Ensuring transparency in the sale of plots, apartments, and buildings
(C) Establishing an appellate tribunal to hear appeals against the orders of the Authority
(D) Acting as the primary lender for providing home loans to EWS beneficiaries

113. Consider the following statements regarding the housing scenario in Madhya Pradesh:
1. The Madhya Pradesh Housing and Infrastructure Development Board plays a key role in increasing the formal housing stock.
2. Under PMAY-U, Madhya Pradesh has focused heavily on the Beneficiary Led Construction (BLC) vertical.
3. The state has completely eradicated all notified and non-notified slums as of 2021.
4. Digitisation of land records via schemes like SVAMITVA aids in securing tenure in peri-urban and rural areas of MP.
Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

114. Under the LARR Act 2013, what is the mandated requirement for Social Impact Assessment (SIA)?
(A) It is optional and at the discretion of the District Collector
(B) It must be conducted only for industrial and mining projects
(C) It must assess whether potential benefits outweigh social costs
(D) It is required only if land acquisition exceeds 5000 hectares

115. Which of the following statements correctly highlights a challenge in implementing the PMAY-U CLSS vertical?
(A) Beneficiaries in informal sectors often lack formal income proof
(B) It generates an excessive amount of paperwork for local ULBs
(C) The interest subsidy is too low to make a difference in EMIs
(D) It requires the beneficiary to surrender their existing land

116. Consider the following statements:
Assertion (A): The provision of basic services like water and sanitation is integral to slum

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upgrading, even if legal tenure is not immediately granted.
Reason (R): Improving environmental health and living conditions in slums yields immediate public health benefits for the entire city.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

117. A town planner aims to design a residential layout that minimizes the length of utility networks (water, sewer) while maximizing net density. Which housing typology should be prioritized?
(A) Large detached plots in a sprawling suburban grid arrangement
(B) Row housing or walk-up apartments arranged in compact clusters
(C) Low-density rural farmhouses with extensive agricultural lands
(D) Ribbon development following the path of a major state highway

118. In Madhya Pradesh, the concept of "SURAJ" colonies under recent state policy initiatives is related to:
(A) Providing subsidized solar panels to luxury hotel resorts
(B) Establishing special economic zones for the local IT industry
(C) Building affordable housing on land freed from the land mafia
(D) Creating dedicated transit camps for visiting foreign tourists

119. Consider the following statements:
Statement I: The implementation of PMAY-U has seen significant convergence with the AMRUT mission to ensure that newly constructed affordable housing projects receive bulk water supply and sewerage connections.
Statement II: The AMRUT mission restricts its funding exclusively to commercial districts, deliberately excluding affordable housing zones.
Which of the above statement(s) is/are correct?
(A) Both Statement I and Statement II are correct
(B) Both Statement I and Statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct

120. Identify the INCORRECT statement regarding the housing shortage estimation methodology:
(A) Housing shortage is a static figure that remains constant over a decade until the next census.
(B) Factors like family nuclearization and rural-urban migration dynamically increase housing demand.
(C) Obsolescence of older housing stock contributes to the overall housing shortage.
(D) The methodology takes into account homelessness as a direct component of the shortage.

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ANSWERS

1. (A) Subdivision of land into individual parcels for independent dwelling units
Plotted housing involves subdividing a large tract of land into smaller individual parcels. Each parcel is designated for a single independent dwelling unit, allowing owners to manage construction within their boundaries. This development type typically requires layouts for internal roads and utility services, providing a decentralized approach to housing compared to high-rise or group developments.

2. (C) P-3, Q-4, R-1, S-2
Walk-up apartments are multi-story blocks limited to five floors to avoid elevator requirements. High-rise low-density developments feature tall vertical buildings on large plots with extensive open grounds. Row housing involves units sharing common side walls with independent ground access. Chawls are characterized by single-room tenements sharing common sanitary facilities, representing a historically significant urban housing form.

3. (A) Ground Coverage – Total built-up area of all floors divided by the total plot area
Ground coverage represents the ratio of the total area covered by the building on the ground level to the total plot area. It regulates the building's horizontal footprint to ensure open space. The definition provided incorrectly describes floor area ratio or total built-up area density rather than the specific physical footprint of the structure at the ground level.

4. (D) Enhanced ground-level social interaction and spontaneous community surveillance
High-rise developments often lead to social isolation and reduced spontaneous surveillance due to vertical separation from the street. While they offer efficient centralized infrastructure and lower land costs per unit, they increase structural and safety requirements. Enhanced ground-level interaction is typically a feature of low-rise, street-oriented developments rather than tall, vertically segregated buildings with limited physical connectivity.

5. (B) 1, 3, and 4
Transit-Oriented Development integrates high-density residential and mixed-use spaces within walking distance of transit hubs. It focuses on reducing vehicle dependency through non-motorized transport infrastructure and often utilizes relaxed floor area ratio norms. Strict segregation of uses is contrary to the TOD philosophy, which advocates for integrated, vibrant, and walkable neighborhoods to maximize the efficiency of public transit.

6. (C) Congestion, obsolescence, homelessness, and un-serviceable katcha houses
The technical methodology for estimating urban housing shortage focuses on multiple critical indicators. These include households residing in congested conditions, obsolescence of existing structures, homelessness, and families living in un-serviceable katcha houses. This comprehensive approach identifies both quantitative and qualitative gaps in the urban housing stock, ensuring that policy interventions address the diverse needs of the vulnerable urban population.

7. (D) Core unit provision allowing occupants to expand it as resources permit
Incremental housing provides a basic core unit or a serviced plot that allows occupants to expand and improve their living space over time. This approach recognizes the limited financial resources of low-income families, enabling them to build according to their needs and savings. It promotes self-help construction and offers a flexible, scalable solution to the urban housing challenge.

8. (A) Both A and R are true and R is the correct explanation of A
Group housing developments achieve superior land utilization efficiency by consolidating residential units on a single large parcel. This arrangement allows for shared common amenities and optimized circulation networks, which are difficult to implement in individual plotted developments. By centralizing services

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(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

102. What is the primary role of the State Level Nodal Agency (SLNA) in the implementation of PMAY-U in Madhya Pradesh?
(A) Directly constructing the houses using its own workforce
(B) Approving building plans for private high-end luxury villas
(C) Coordinating with ULBs and monitoring scheme progress at state level
(D) Issuing land titles and registration for unauthorized colonies

103. Which of the following statements correctly differentiates between Gross Residential Density and Net Residential Density?
(A) Net density includes city highways, whereas gross density does not
(B) Net density is always calculated in FAR terms for all projects
(C) There is no practical difference between these planning terms
(D) Gross density includes neighborhood areas; net density is plot-only

104. Consider the following statements:
Assertion (A): The implementation of the Model Tenancy Act, 2021 is expected to unlock vacant houses for rental purposes.
Reason (R): The Act aims to create a transparent regulatory framework, establish Rent Courts, and effectively protect the property rights of landlords while safeguarding tenants against arbitrary eviction.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true but R is false
(D) A is false but R is true

105. An urban planner is designing a 100-hectare Integrated Township. According to general planning norms, what approach should be taken regarding the provision of affordable housing within this township?
(A) Completely exclude affordable housing to maximize developer profit
(B) Integrate affordable housing utilizing inclusionary zoning norms and cross-subsidization principles
(C) Isolate affordable housing to the extreme periphery with separate entrances
(D) Allocate 100% of the land to EWS housing and eliminate all HIG/MIG plots

106. In the context of Madhya Pradesh, which specific city has been widely recognized at the national level for successfully implementing a "Light House Project" (LHP) under PMAY-U?
(A) Bhopal
(B) Indore
(C) Jabalpur
(D) Gwalior

107. Consider the following statements:
Statement I: The RERA Act mandates that builders must quote property prices based on the super built-up area.
Statement II: The RERA Act stipulates strict penalties for promoters who fail to deliver projects within the promised timeframe.
Which of the above statement(s) is/are correct?
(A) Both Statement I and Statement II are correct
(B) Both Statement I and Statement II are incorrect
(C) Statement I is correct but Statement II is incorrect
(D) Statement I is incorrect but Statement II is correct

108. Identify the INCORRECT statement regarding the assessment of housing stock conditions:
(A) The Census of India categorizes housing conditions into Good, Livable, and Dilapidated.
(B) Dilapidated houses are considered unsafe for habitation and are included in housing shortage calculations.
(C) Only pucca houses are evaluated for condition assessment; katcha houses are automatically excluded from the Census.
(D) Obsolescence refers to houses that have outlived their structural life and require replacement.

109. What does "In-situ Slum Redevelopment" utilizing land as a resource primarily imply?

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17. (B) 1, 3, and 4
The Affordable Rental Housing Complexes scheme, a sub-mission of PMAY-U, targets urban migrants and workers rather than rural agricultural laborers. It utilizes vacant government-funded housing and provides incentives for private entities to construct rental units on their land. This initiative addresses the housing needs of the floating urban population, ensuring they have access to dignified and affordable living spaces near workplaces.

18. (B) 25% to 30%
A widely accepted benchmark for housing affordability is that a household should not spend more than twenty-five to thirty percent of its gross monthly income on equated monthly installments. This ratio ensures that families retain sufficient financial resources for other essential needs like food, education, and healthcare. Higher ratios often indicate a high risk of mortgage default and financial instability for homeowners.

19. (A) Granting more floor space if a portion is reserved for affordable housing
Density bonuses are an incentive-based zoning tool used to promote affordable housing. They allow developers to build more floor space than the standard zoning permits on a particular site. In exchange for this additional capacity, developers must reserve a specific percentage of the units for low-income households. This mechanism leverages private sector development to increase the supply of affordable housing without direct public funding.

20. (A) Both A and R are true and R is the correct explanation of A
Public-Private Partnership models are essential for delivering affordable housing because they combine the strengths of both sectors. The private sector provides technical efficiency, capital investment, and construction expertise, while the public sector offers land resources and streamlined regulatory approvals. This collaboration makes large-scale affordable housing projects more financially viable and accelerates the pace of delivery to meet growing urban housing demands across the country.

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21. (B) Incentive Zoning / Density Bonus
Granting additional floor area ratio to a developer in exchange for constructing housing for the Economically Weaker Section is a classic application of incentive or bonus zoning. This policy encourages developers to provide public benefits, like affordable housing, by offering them increased development potential on their site. It differs from inclusionary zoning, which is a mandate rather than a voluntary exchange for specific bonuses.

22. (C) Madhya Pradesh Housing and Infrastructure Development Board
The Atal Ashraya Yojana is a flagship affordable housing initiative in Madhya Pradesh aimed at providing low-cost housing units to the urban poor. This scheme is primarily implemented by the Madhya Pradesh Housing and Infrastructure Development Board. The board focuses on creating high-quality, affordable residential projects through various models, including direct construction and public-private partnerships, to address the housing shortage for economically vulnerable populations.

23. (A) 2, 1, 4, 3
Land pooling begins with the official declaration of intention and notification of the project area. Following this, the planning authority reconstitutes the fragmented land plots and designates specific zones for affordable housing. The authority then provides essential trunk infrastructure like roads and utilities. Finally, the reconstituted, serviced plots are transferred back to the original landowners, who benefit from the increased land value and infrastructure.

24. (A) It is typically discouraged due to the high land values near transit stations.
Transit-oriented affordable housing is highly encouraged because it reduces the combined cost of housing and transportation for low-income residents. While land values near transit hubs are high, proactive policies like land value capture and zoning relaxations can make these projects viable. Such developments enhance spatial equity by ensuring that marginalized communities have efficient access to employment centers and social infrastructure through public transit.

74. (B) P-2, Q-1, R-3, S-4
The Revenue Department manages the Revenue Case Management System for land disputes. The Urban Development Department utilizes the Automated Building Plan Approval System for construction permits. MP RERA operates a dedicated web portal for project and agent registration. PMAY-U in Madhya Pradesh integrates with the Bhuvan platform for geotagging construction stages, ensuring transparent monitoring of the physical progress of affordable housing units.

75. (A) Row housing – Units are detached on all sides, zero shared walls, low density
Row housing is characterized by units that share common side walls with their neighbors, rather than being detached on all sides. This typology is a medium-density solution that balances individual ground access with efficient land utilization. Detached units with zero shared walls are typical of bungalows or single-family villas, which generally result in much lower residential densities compared to row or terrace housing.

76. (C) Mandatory confiscation of informal commercial assets found during the survey
A comprehensive slum survey focuses on gathering household socio-economic data, physical mapping of boundaries, and profiling infrastructure deficiencies. Mandatory confiscation of informal commercial assets is not a part of the methodology and would be counterproductive to the goal of rehabilitation. The survey's purpose is to create an evidence base for upgrading lives and services, not to penalize the informal economic activities of residents.

77. (B) 1, 3, and 4
HUDCO is a public sector enterprise that provides financial assistance for housing and urban infrastructure, with a specific mandate to support weaker sections. It is not a private commercial bank but a government-owned institution. Beyond financing, it offers valuable consultancy services for architectural design and layout planning, playing a pivotal role in the systematic development of affordable housing and modern urban habitats.

78. (B) 10% to 15%
According to the Urban Regional Development Plans Formulation and Implementation guidelines, a neighborhood layout should ideally dedicate ten to fifteen percent of its residential area to open spaces and parks. This standard ensures that residents have access to recreational areas and that the environment maintains a balance between built-up structures and green spaces, contributing to the overall health and well-being of the community.

79. (B) Model blending residential and commercial uses in one space
Mixed-use residential development is a planning model that integrates residential units with commercial, office, or institutional uses within a single building or a defined neighborhood. This approach promotes walkability, reduces the need for long commutes, and creates vibrant, multi-functional urban spaces. By blending different uses, cities can achieve higher efficiency in land utilization and provide residents with easier access to daily needs.

80. (A) Both A and R are true and R is the correct explanation of A
Digitizing land records is a critical reform for the affordable housing sector as it ensures clear and undisputed land titles. This transparency significantly reduces the risk of legal litigation, which often stalls residential projects. Furthermore, digital records streamline the property transaction process, making it much easier for low and middle-income buyers to access formal institutional finance from banks, thereby increasing housing ownership opportunities.

81. (A) In-situ Slum Redevelopment using land as a primary resource
Allowing a developer to build commercial spaces on a portion of slum land in exchange for providing free housing to the residents on the remaining part is a classic example of In-situ Slum Redevelopment using land as a resource. This model leverages the commercial value of the site to finance the construction of formal housing, making the project viable for the private sector.

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33. (A) Relocation and Resettlement (R&R) to a safe nearby zone
When a slum is situated on a site that is inherently hazardous, such as a natural drain prone to annual flooding, in-situ upgrading is not a viable or safe option. The most appropriate strategy is relocation and resettlement to a safe nearby zone. This approach protects the lives and health of the residents while allowing the restoration of the natural drainage system.

34. (C) The declaration of slum areas, their improvement, and clearance
The Madhya Pradesh Gandi Basti Unmoolan Tatha Sudhar Adhiniyam is the primary legal framework in the state for managing slums. It provides the legal authority for the government to declare specific areas as slums based on their condition. The act outlines the procedures for the improvement of basic services, the clearance of dilapidated structures, and the overall redevelopment of these settlements to ensure livability.

35. (A) 1, 2, 3, 4
National urban housing schemes in India followed a clear progression over the years. VAMBAY was launched first to address basic shelter and sanitation. This was followed by the BSUP component under JNNURM, focusing on holistic urban poor services. RAY was then introduced with a focus on slum-free cities and property rights. Finally, PMAY-U was launched in 2015 as the comprehensive mission for "Housing for All."

36. (D) Social infrastructure like anganwadis and health clinics are secondary and should be omitted to save project costs.
Social infrastructure, such as anganwadis and health clinics, is essential for the holistic development of communities and should never be omitted. In slum redevelopment, preserving existing community ties and social capital is vital for long-term project success. Effective rehabilitation must incorporate livelihood restoration strategies to ensure that residents can maintain their economic well-being, especially when they are relocated from established networks in the city.

37. (B) Usable area excluding external walls, services, and balconies
Under the Real Estate (Regulation and Development) Act, 2016, "carpet area" is strictly defined as the net usable floor area of an apartment. It specifically excludes external walls, service shafts, exclusive balconies, or verandas. This standardization ensures that homebuyers pay only for the actual usable space within the walls of their unit, bringing transparency and fairness to real estate transactions across the country.

38. (C) P-2, Q-3, R-4, S-1
The Model Tenancy Act balances the interests of landlords and tenants to formalize rental markets. The LARR Act 2013 ensures fair compensation and rehabilitation during land acquisition. The National Housing Bank acts as the principal agency promoting housing finance institutions nationwide. Finally, RERA 2016 regulates the real estate sector to protect homebuyers and ensure the timely delivery of residential and commercial projects.

39. (D) Accommodation Reservation – Mandates the complete acquisition of private land by the state without compensation
Accommodation Reservation is a planning tool where the government allows a landowner to develop a public facility on their land in exchange for additional floor area or other benefits. It does not involve the complete acquisition of land without compensation. In contrast, tools like FAR and density norms regulate development intensity, while TDR permits the transfer of development rights between different land parcels.

40. (A) Halting the process of urbanization to prevent rural-to-urban migration
The National Urban Housing and Habitat Policy 2007 did not aim to halt urbanization, as it recognized urban growth as an inevitable and positive driver of economic development. Instead, it focused on facilitating 'Affordable Housing for All,' promoting public-private partnerships, and encouraging sustainable habitat development. The policy sought to manage the urban transition effectively rather than preventing migration from rural to urban areas.

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Sector Lending. This classification mandates that banks dedicate a certain portion of their total lending to these sectors, ensuring that finance is accessible and affordable for individuals. This policy is a key driver for expanding homeownership among low and middle-income groups.

91. (A) Multi-story structure with single rooms and shared facilities
A chawl is a historically significant urban housing form, particularly in cities like Mumbai. It typically consists of multi-story buildings where each family occupies a single room. These tenements are arranged along a common corridor, and all residents share communal sanitary facilities like toilets and bathrooms. Chawls were originally developed to provide low-cost accommodation for the growing industrial labor force during urbanization.

92. (A) Both A and R are true and R is the correct explanation of A
Self-help and incremental housing are effective because they align with the financial realities of low-income households. By allowing families to build and expand their homes progressively, these strategies accommodate fluctuating income levels and immediate needs. This flexibility prevents households from taking on unmanageable debt and ensures that housing improvements occur at a pace that is sustainable for the family, leading to long-term residency.

93. (B) 2500 sq.m
With a baseline FAR of two point zero on a thousand square meter plot, the standard built-up area is two thousand square meters. A density bonus of point five increases the total FAR to two point five. Multiplying the plot area by this new FAR results in a maximum permissible total built-up area of two thousand five hundred square meters, provided the developer meets the EWS reservation requirements.

94. (C) Fund municipal infrastructure projects that complement housing
The Chief Minister Urban Infrastructure Development Scheme in Madhya Pradesh provides financial support to urban local bodies for municipal projects. These funds are used to build roads, parks, and other essential civic infrastructure that complement and support residential housing developments. By improving the surrounding environment, CMUIDS helps create integrated and livable neighborhoods, enhancing the overall quality of life for the urban population.

95. (C) Statement I is correct but Statement II is incorrect
Geotagging is used in PMAY-U to monitor the physical progress of housing units by capturing spatial data and time-stamped images. This ensures that funds are released only after verifying that a specific stage of construction, such as the plinth or roof, has been completed. It does not halt construction for minor aesthetic changes like paint color; its purpose is to ensure structural progress and transparency.

96. (D) It mandates a Social Impact Assessment (SIA) for all land acquisitions, without any exemptions.
The LARR Act 2013 does not mandate a Social Impact Assessment for all land acquisitions without any exemptions. There are specific "urgency clauses" and exemptions for certain types of projects, such as those related to national security or during natural disasters. While SIA is a critical component for most large acquisitions to assess social costs, the law provides for expedited processes under defined exceptional circumstances.

97. (A) Using market-rate units to subsidize affordable units in a project
Cross-subsidisation in housing project economics is the practice of using higher margins from market-rate units to offset the costs of affordable housing within the same project. This allows developers to offer units to low-income groups at prices below the actual cost of construction and land. It is a vital mechanism for making inclusionary housing projects financially feasible without requiring large direct government subsidies.

98. (C) P-2, Q-1, R-3, S-4
PMAY-G focuses on rural households building pucca houses. ARHCs target urban migrants needing rental accommodation. PMAY-U CLSS provides interest subsidies on home loans for middle and low-income urban residents. The CM Bhu-Adhikar Yojna in Madhya Pradesh

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commercial use in exchange for building free housing for the residents on the same site. This model leverages the high market value of urban land to finance slum improvement projects.

50. (C) P-4, Q-1, R-3, S-2
ISSR utilizes land as a resource for slum rehabilitation on-site. CLSS provides interest subventions on home loans for various income groups. AHP involves partnerships with state or private agencies where a quarter of the houses are reserved for the Economically Weaker Section. BLC offers direct financial assistance to individual families to construct or enhance houses on their own land, provided they lack pucca structures.

51. (A) Age limit for CLSS – Beneficiary must be a senior citizen above 60 years of age
The Credit Linked Subsidy Scheme under PMAY-U is not restricted solely to senior citizens above sixty years of age. It is available to all eligible beneficiary families across different age groups, provided they meet the income criteria and do not own a pucca house elsewhere. The scheme defines a beneficiary family as husband, wife, and unmarried children, focusing on expanding ownership to first-time homebuyers.

52. (D) Blockchain-based cryptocurrency transactions for contractor payments
PMAY-U utilizes several digital tools like geotagging for tracking construction, Direct Benefit Transfer for fund disbursement, and Management Information Systems for monitoring progress. However, blockchain-based cryptocurrency transactions are not a mandated or recognized technology for contractor payments within the mission's framework. The mission relies on established government financial systems like the Public Financial Management System to ensure transparency and accountability in all transactions.

53. (A) 1, 2, and 4
The Beneficiary-Led Construction vertical targets individuals who own land but lack a pucca house. The central government provides one point five lakh rupees per EWS unit, and progress is monitored through geotagged photos. Critically, funds are released directly to the beneficiary's bank account via DBT, rather than to a builder, to empower the homeowners to manage their own construction process effectively.

54. (B) ₹1.5 lakh
Under the Affordable Housing in Partnership vertical of the Pradhan Mantri Awas Yojana - Urban, the central government provides assistance of one point five lakh rupees per house for the Economically Weaker Section. This funding is designed to support projects developed by states, urban local bodies, or in partnership with the private sector, where at least thirty-five percent of the houses are reserved for EWS.

55. (D) Exercise by ULBs to identify beneficiaries and city housing needs
A Demand Survey is a fundamental exercise conducted by Urban Local Bodies to identify eligible beneficiaries and assess the actual housing needs within a city. This survey captures the socio-economic profile and current housing status of applicants, allowing the administration to plan the scale of interventions across the four verticals of PMAY-U. It ensures that the housing mission is targeted and evidence-based.

56. (A) Both A and R are true and R is the correct explanation of A
The Credit Linked Subsidy Scheme is structurally unique compared to other PMAY-U verticals because it operates as a Central Sector Scheme. While ISSR, AHP, and BLC are implemented through state governments and local bodies, CLSS is managed directly through primary lending institutions like banks. This direct approach allows the central government to provide interest subsidies straight to the beneficiaries' loan accounts, streamlining the financial assistance process.

57. (B) In-Situ Slum Redevelopment (ISSR)
For an EWS family living in a slum on prime government land without formal tenure, the In-Situ Slum Redevelopment vertical is the most appropriate intervention. It specifically targets the rehabilitation of slum dwellers on the land they currently occupy by using the land's value as a resource. This model enables the provision of formal, pucca housing on the same site through public-private partnerships.

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25. (B) Areas notified as 'Slum' by government bodies under any specific Act
According to the Census of India, a notified slum is an area that has been formally declared as a 'Slum' by the state or local government under any specific legislation, such as the Slum Areas Act. This formal notification is a legal status that enables the administration to implement specific improvement, clearance, or redevelopment schemes within the designated boundaries of the settlement.

26. (B) P-3, Q-4, R-1, S-2
In-situ upgrading involves improving housing and infrastructure at the existing location. Relocation refers to moving dwellers from hazardous or required sites to new areas. Tenure security provides legal protection against arbitrary eviction, which is crucial for community investment. Non-notified slums are settlements that lack formal legal recognition by the government despite having poor living conditions, often resulting in exclusion from standard municipal services.

27. (A) Solid waste management – Open burning of waste within the slum periphery
Solid waste management in slum upgrading should involve the systematic collection, transport, and safe disposal of waste. Open burning within the slum periphery is an incorrect and hazardous practice that leads to severe environmental pollution and health risks. Proper management focuses on door-to-door collection and integration with the city's waste disposal system to maintain a clean and hygienic environment for the residents.

28. (C) The slum consists of residents who have lived there for more than 20 years
Long-term residency is not a valid reason for relocation; in fact, it often strengthens the case for in-situ upgrading due to established social ties. Relocation is generally reserved for slums on environmentally hazardous sites, such as floodplains, or land required for critical public infrastructure like railways. It is also considered for settlements in ecologically sensitive zones where continued habitation poses a threat to biodiversity.

29. (A) 1, 2, and 4
The Rajiv Awas Yojana was designed to encourage states to systematically address slums through a "Slum Free City Plan of Action." It promoted the provision of property rights to residents to ensure tenure security rather than mandating eviction. The scheme focused on a holistic approach to slum redevelopment, emphasizing in-situ upgrading and the integration of basic services to improve the overall urban environment.

30. (B) 300 persons or about 60 households
Under the Census of India classification, an area is identified as a slum if it is a compact settlement of at least three hundred persons or about sixty households. These areas are characterized by poorly built structures, overcrowding, and a lack of essential basic amenities like safe drinking water and sanitation. Identification allows the government to track and target these settlements for future developmental interventions.

31. (B) They empower local residents to participate in planning and maintenance of services.
Community-led slum upgrading models empower local residents to participate actively in the planning, design, and long-term maintenance of services. This participatory approach ensures that interventions are tailored to the specific needs of the inhabitants and fosters a sense of ownership. While government support remains necessary for funding and technical guidance, the community's involvement leads to more sustainable and socially acceptable improvement outcomes.

32. (A) Both A and R are true and R is the correct explanation of A
Tenure security is a foundational element in slum upgrading because it eliminates the fear of forced eviction. When residents have a legal claim or recognized right to their dwelling, they are more willing to invest their own resources and savings into improving their homes. This private investment complements government efforts, leading to a progressive and sustained improvement in the housing stock and environment.

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66. (C) 20 years
Under the Credit Linked Subsidy Scheme of PMAY-U, the maximum loan tenure permitted for calculating the interest subvention is twenty years. While a beneficiary may take a loan for a longer duration, the subsidy is restricted to this period. This cap ensures that the financial assistance remains sustainable while providing significant relief to low and middle-income families through reduced monthly interest burdens.

67. (A) It mandates that all ongoing projects that have not received a completion certificate must be registered with the Authority.
In Madhya Pradesh, the RERA Act mandates that all ongoing real estate projects that have not received a completion certificate must be registered with the Authority. This ensures that even existing projects are subject to transparency and accountability standards. The law applies to both residential and commercial projects and strictly prohibits advertising or selling any units before formal registration is obtained by the promoter.

68. (A) Both A and R are true and R is the correct explanation of A
Promoting fly ash bricks is a key strategy in affordable housing because they offer significant environmental and economic benefits. These bricks utilize industrial waste, reducing the need for traditional clay and preventing topsoil erosion. Furthermore, they are often more cost-effective and provide better structural quality than red clay bricks. Encouraging their use aligns with the goal of building sustainable and affordable habitats across the country.

69. (B) The Census of India H-Series (Housing Tables)
The Census of India H-Series, or Housing Tables, is the most technically appropriate secondary data source for assessing the physical condition of a city's housing stock. It provides detailed statistics on the quality of structures, categorizing them as good, livable, or dilapidated. This decadal data allows planners to analyze housing gaps and structural obsolescence without the immediate need for conducting expensive primary surveys.

70. (C) Giving free plots of land to landless rural families for construction
The Chief Minister's Residential Land Rights Scheme, or Bhu-Adhikar Yojna, in Madhya Pradesh is specifically designed for landless rural families. It provides free plots of land to eligible beneficiaries who do not own a house or land in their village. This initiative ensures that every family has a designated space to build a home, addressing rural landlessness and supporting the broader goal of housing security.

71. (C) Statement I is correct but Statement II is incorrect
The National Housing Bank is indeed the apex financial institution in India established to promote and regulate housing finance companies. However, it does not typically provide direct housing loans to individual homebuyers. Instead, it operates as a refinancing agency, providing capital to banks and specialized housing finance institutions, which then offer mortgage products to consumers at competitive and sometimes subsidized interest rates.

72. (A) Beneficiaries are identified based solely on the BPL (Below Poverty Line) list prepared in 1991.
Beneficiaries for PMAY-G are not identified using the outdated 1991 BPL list; instead, they are selected based on the more recent and comprehensive Socio-Economic and Caste Census (SECC) 2011 data. This ensures a more accurate targeting of those in genuine need. The scheme mandates a minimum house size, uses direct benefit transfers, and encourages local materials to ensure that rural housing is culturally and environmentally appropriate.

73. (B) Legal protection of residents against arbitrary forced eviction
Tenure security fundamentally refers to the legal and administrative protection of residents against arbitrary and forced eviction from their homes. In the context of slum rehabilitation, it is the most critical factor for social stability and progress. Providing secure tenure, whether through ownership titles or long-term leases, empowers families to invest in their properties and facilitates access to formal municipal services and credit.

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41. (B) 1, 3, and 4
Transfer of Development Rights allows the development potential of a land parcel to be separated and utilized elsewhere. These certificates are tradable assets in the open market. Owners of heritage properties are frequently granted TDR as compensation for restrictions on developing their historically significant sites. The receiving zones where these rights are applied typically see an increase in the permissible floor area ratio.

42. (C) 70%
To ensure project completion and protect homebuyer funds, RERA mandates that seventy percent of the money realized from allottees must be deposited in a separate escrow account. These funds can only be withdrawn to cover the specific costs of construction and land for that project. This regulation prevents the diversion of capital to other developments, a practice that previously caused significant project delays.

43. (A) Establishes Rent Authorities to formalize the rental market
The primary objective of the Model Tenancy Act, 2021, is to formalize and regulate the rental housing market across India. It achieves this by establishing specialized Rent Authorities and Courts to resolve disputes efficiently. The Act requires written agreements for all tenancies and provides a balanced legal framework that protects both landlords from unauthorized occupation and tenants from arbitrary evictions and rent hikes.

44. (A) Both A and R are true and R is the correct explanation of A
The LARR Act 2013 significantly increased the complexity and cost of land acquisition for large housing projects. This is because the law introduced mandatory Social Impact Assessments and high consent thresholds for private and public-private projects. Additionally, it significantly enhanced compensation rates, requiring up to four times the market value in rural areas, which ensures fairness for landowners but raises the financial requirements.

45. (D) Floor Space Index (FSI) / FAR Incentive
When a landowner is compensated for surrendering land for public purposes, such as road widening, by being allowed to build extra floor area on their remaining property, it is a direct application of FAR or FSI incentives. This mechanism allows the government to acquire land without direct cash payments while providing the owner with equivalent value through increased development potential on-site.

46. (C) Director of Town and Country Planning
Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, the Director of Town and Country Planning is the primary authority responsible for the preparation and approval of Development Plans. These plans, commonly known as Master Plans, outline the land use, zoning, and growth strategies for various planning areas across the state, ensuring organized and regulated urban development for future populations.

47. (A) 4, 3, 2, 1
Legal milestones in Indian urban development started with the National Urban Housing and Habitat Policy in 2007. This was followed by the enactment of the LARR Act in 2013, which reformed land acquisition. Subsequently, the RERA Act was passed in 2016 to regulate the real estate sector. Most recently, the Model Tenancy Act was introduced in 2021 to formalize the rental housing market.

48. (D) The implementation of Automated Building Plan Approval Systems (ABPAS) has decreased transparency and increased processing time.
The implementation of Automated Building Plan Approval Systems has actually increased transparency and significantly decreased processing time for construction permits. These digital systems streamline the review of architectural plans and structural certificates, ensuring faster compliance with zoning and safety codes. Far from hindering the process, ABPAS is a critical reform that reduces human intervention and promotes efficient urban governance and easier project approvals.

49. (A) In-Situ Slum Redevelopment (ISSR)
The In-Situ Slum Redevelopment vertical of PMAY-U is designed to use land as a resource to rehabilitate slum dwellers. It encourages private developers to participate by offering them additional development rights or land for

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82. (C) Executing urban infrastructure projects converging with housing
The Madhya Pradesh Urban Development Company is primarily focused on the execution and management of major urban infrastructure projects across the state. It works to improve basic services like water supply and sewerage, which are essential for making housing developments functional and habitable. MPUDC often coordinates with various national missions to ensure that urban growth is supported by robust and modern physical infrastructure.

83. (B) Both Statement I and Statement II are incorrect
The National Urban Housing and Habitat Policy 2007 actually advocates for the government to move from being a direct 'Provider' to a 'Facilitator' of housing. It emphasizes creating an enabling environment for the private sector and cooperatives rather than shifting the entire burden to state housing boards. The policy seeks to leverage diverse stakeholders to meet the massive demand for urban housing.

84. (D) It states that the majority of the urban housing shortage in India is concentrated in the High-Income Group (HIG).
The Technical Group Report on Housing Shortage highlights that the vast majority of India's urban housing shortage is concentrated in the Economically Weaker Section and Low Income Group categories, not the High Income Group. The shortage for HIG is actually negligible compared to the massive deficit faced by poorer households. The report correctly accounts for congestion, structural obsolescence, and katcha houses as key indicators.

85. (B) Floor Area Ratio
In urban planning and building regulations, FAR stands for Floor Area Ratio. It is the ratio of the total built-up area of all floors of a building to the total area of the plot on which it stands. FAR is a critical tool used by municipal authorities to regulate the bulk, height, and intensity of development, ensuring that urban growth remains within the city's infrastructure capacity.

86. (C) P-4, Q-1, R-3, S-2
Recognized slums are acknowledged by authorities but not formally declared under an act. Notified slums are legally declared under specific statutes. Identified slums meet Census criteria of at least three hundred people lacking basic amenities. Squatter settlements are informal areas where residents lack any formal legal title to the land, often occupying public spaces due to the lack of affordable alternatives in the formal market.

87. (D) Light House Projects – Buildings using conventional brick techniques
Light House Projects are specifically designed to showcase modern, innovative, and green building technologies, rather than using conventional brick techniques. These projects serve as live laboratories to demonstrate alternative construction methods like precast concrete or sandwich panels. The Technology Sub-Mission aims to identify and mainstream such advanced technologies to improve the speed, quality, and sustainability of affordable housing construction across the country.

88. (A) Elimination of the need for skilled labor or specialized machinery
Prefabricated technology does not eliminate the need for skilled labor; in fact, it requires highly specialized workers and machinery for the precise casting, transport, and assembly of components. The advantages of this technology include a significant reduction in construction time, better quality control through factory manufacturing, and a decrease in on-site waste and noise, making it ideal for large-scale, high-density affordable housing projects.

89. (A) 1, 2, and 3
Urban Local Bodies are central to housing implementation, as they manage zoning, identify beneficiaries, and grant building permissions. They ensure that residential developments comply with the city's master plan and safety standards. However, ULBs do not have the authority to amend the Real Estate (Regulation and Development) Act, which is a national legislation under the jurisdiction of the Parliament and State Legislatures.

90. (B) Priority Sector Lending
The Reserve Bank of India classifies housing loans up to specific limits for the purchase or construction of dwelling units under Priority

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58. (B) PMAY-U BLC / PMAY-G
The Mukhyamantri Awas Yojana in Madhya Pradesh is designed to complement the Beneficiary-Led Construction vertical of PMAY-U and the rural PMAY-G mission. It specifically targets landless poor families, providing them with residential plots and financial support to build houses. By converging state and central resources, the scheme ensures that those without land titles can still access the benefits of national housing missions.

59. (A) 2, 1, 4, 3
A typical BLC project begins with a city-wide demand survey to identify eligible beneficiaries. Once identified, a Detailed Project Report is prepared and uploaded to the PMAY MIS portal for approval. During construction, the unit must be geotagged at specific stages, such as the plinth level, to verify progress. Finally, after successful verification of the completed work, the final financial installment is released.

60. (C) Urban Local Bodies (ULBs) play a minimal role, as the entire execution is managed directly by the Central Government.
The implementation of PMAY in Madhya Pradesh involves a major role for Urban Local Bodies, which are responsible for demand surveys, beneficiary identification, and project execution. The central government provides funding and guidelines, but the actual management is decentralized to the state and local levels. Suggesting that ULBs have a minimal role is incorrect, as they are the primary implementing agencies on the ground.

61. (D) Mandate requiring developers to reserve units for low-income households
Inclusionary Zoning is a regulatory tool that requires developers to reserve a certain percentage of units in new residential projects for low- and moderate-income households. This policy aims to integrate affordable housing into market-rate developments, promoting social diversity and ensuring that low-income workers can live near their places of employment. It leverages private real estate growth to expand the city's affordable housing stock.

62. (C) P-4, Q-2, R-1, S-3
MP RERA focuses on project registration and protecting homebuyer interests. The MP Housing Board is primarily responsible for the direct execution of large-scale housing and infrastructure projects across the state. The Town and Country Planning department handles master plan preparation and layout approvals. Urban Local Bodies are tasked with issuing building permissions and ensuring the delivery of basic municipal services to the residents.

63. (B) LHP Lucknow – Bamboo and Mud based vernacular construction
The Light House Project in Lucknow does not utilize bamboo and mud-based construction; instead, it employs advanced Stay-In-Place PVC Formwork with concrete. Each LHP under the Global Housing Technology Challenge demonstrates a specific modern, sustainable, and fast-track technology. Other projects correctly feature sandwich panels in Indore, monolithic concrete in Rajkot, and precast systems in Chennai, showcasing innovative alternatives to traditional brick-and-mortar techniques.

64. (D) High availability of vacant government land within city centers
High availability of vacant government land in city centers is not a reality; in fact, the extreme scarcity of such land is a major challenge for slum redevelopment. Other significant hurdles include obtaining consent from the majority of residents, providing temporary transit accommodation, and managing the financial risks for private developers. The lack of available land often complicates the effort to rehabilitate slums in-situ.

65. (B) 1, 2, and 4
PMAY-U encourages convergence with multiple missions to ensure holistic development. It integrates with Swachh Bharat for toilets and AMRUT for piped water and sewerage connections, making the new houses fully habitable. The mission does not prohibit funding convergence with the Ujjwala Yojana for LPG; rather, it seeks to align with various social welfare schemes to provide comprehensive amenities to the beneficiary families.

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is specifically for rural landless families who need residential plots to build their homes. Each scheme addresses a distinct demographic to ensure comprehensive coverage of housing needs.

99. (A) HUDCO – A cooperative society that exclusively builds rural mud houses
HUDCO is a premier public sector company that provides finance and consultancy for both housing and major urban infrastructure, rather than being a cooperative society exclusively for rural mud houses. It supports a wide range of projects across urban and rural areas. Other institutions like NHB, HFCs, and commercial banks correctly fulfill their roles in regulating, refinancing, and providing mortgage loans directly to various consumer segments.

100. (D) The individual member has full unilateral authority to sell the common community hall without society approval.
In cooperative housing, individual members do not have unilateral authority to sell common community assets like a hall. Such decisions must be made collectively through the society's board or general body. Members pool resources to acquire land and construct units, with the society retaining ownership of common areas. This model eliminates developer profits and emphasizes collective management and shared responsibility for the entire residential complex.

101. (A) 1, 2, and 3
A Slum Free City Plan of Action involves mapping all slums, classifying them by tenability, and estimating the investment needed for rehabilitation. This strategic document provides a roadmap for systematic slum improvement across the city. While it relates to urban cleanliness, SFCPoA was a core component introduced under the Rajiv Awas Yojana rather than exclusively under the Swachh Bharat Mission, focusing on housing and rights.

102. (C) Coordinating with ULBs and monitoring scheme progress at state level
The State Level Nodal Agency in Madhya Pradesh serves as the primary coordinating body for the implementation of PMAY-U. It monitors the progress of projects across different urban local bodies, ensures the timely release of state and central funds, and provides technical guidance to local authorities. The SLNA does not directly construct houses but ensures that the mission's objectives and guidelines are followed state-wide.

103. (D) Gross density includes neighborhood areas; net density is plot-only
Gross residential density is calculated by dividing the total population by the entire neighborhood area, which includes roads, parks, and public facilities. In contrast, net residential density is calculated using only the area dedicated strictly to residential plots. Consequently, net density is always higher than gross density for the same development, as it excludes the land used for supporting infrastructure and open spaces.

104. (A) Both A and R are true and R is the correct explanation of A
The Model Tenancy Act is expected to unlock millions of vacant houses by creating a transparent and balanced regulatory environment. By establishing dedicated Rent Courts and ensuring clear property rights for landlords, it reduces the risk of long-term illegal occupation. This security encourages owners to rent out their vacant properties, while simultaneously protecting tenants from arbitrary eviction, thereby increasing the overall supply of formal rental housing.

105. (B) Integrate affordable housing utilizing inclusionary zoning norms and cross-subsidization principles
When designing large integrated townships, planners should include affordable housing by applying inclusionary zoning and cross-subsidization principles. This ensures that the development is socially diverse and provides housing for the essential workers who support the township. Integrating these units within the layout, rather than isolating them on the periphery, promotes social equity and creates a more sustainable and functional urban environment for all residents.

106. (B) Indore
Indore is the specific city in Madhya Pradesh that was selected to implement a Light House Project under the Global Housing Technology Challenge-India. The project demonstrates the use of prefabricated sandwich panel systems to

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build high-quality affordable housing rapidly. This initiative has received national recognition for showcasing innovative, sustainable, and disaster-resilient construction technologies that can be replicated in other urban areas to meet housing demands.

107. (D) Statement I is incorrect but Statement II is correct
The RERA Act mandates that builders must quote property prices based on the carpet area, not the super built-up area, to ensure transparency for buyers. The Act also stipulates strict penalties for promoters who fail to deliver projects on time, protecting consumers from indefinite delays. While the second statement is correct, the first is incorrect, as RERA moved the industry toward standardized carpet area pricing.

108. (C) Only pucca houses are evaluated for condition assessment; katcha houses are automatically excluded from the Census.
The Census of India evaluates both pucca and katcha houses for condition assessment. Katcha houses are not automatically excluded; instead, those that are found to be in poor physical condition are classified as dilapidated or un-serviceable. This comprehensive assessment allows the government to understand the full extent of housing vulnerability, including structural obsolescence and the need for replacement of substandard structures across the entire city.

109. (D) Using commercial value of land to cross-subsidize formal housing
In-situ slum redevelopment utilizing land as a resource involves leveraging the high market value of the land currently occupied by a slum. A portion of the site is used for high-value commercial or residential development by a private partner, and the profits generated are used to cross-subsidize the construction of free, formal housing for the slum dwellers on the remaining part of the same plot.

110. (C) P-3, Q-2, R-1, S-4
Beneficiary identification verifies eligibility against specific criteria. A demand survey assesses the actual housing requirement in a given area. Geotagging attaches coordinates and images to track the physical progress of construction. Public-Private Partnerships involve collaboration between the government and private developers to execute large-scale projects. Each of these terms is a critical component in the administrative and technical implementation of modern affordable housing missions.

111. (D) High-rise low-density – Squatter settlements on the urban periphery
Squatter settlements on the urban periphery are typically characterized by low-rise, high-density development with small, crowded structures. They are not high-rise developments. High-rise low-density forms usually consist of tall towers on large landscaped grounds, often seen in luxury developments. Squatter areas lack the structural complexity of high-rise buildings and are instead defined by extreme overcrowding and horizontal sprawl on any available vacant land.

112. (D) Acting as the primary lender for providing home loans to EWS beneficiaries
MP RERA is a regulatory body and does not act as a lender for home loans. Its primary functions include registering real estate projects and agents, ensuring transparency in transactions, and providing a platform for the redressal of homebuyer grievances. Lending is the responsibility of commercial banks and housing finance companies. RERA ensures that these projects are delivered as promised and follow all legal requirements.

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113. (A) 1, 2, and 4
Madhya Pradesh has successfully focused on the BLC vertical of PMAY-U and utilizes its Housing Board to increase formal stock. Digitisation via SVAMITVA helps secure tenure in rural areas. However, it is incorrect to state that the state has completely eradicated all slums as of 2021. Slum improvement remains an ongoing challenge that requires continuous policy intervention and long-term investment in redevelopment and social infrastructure.

114. (C) It must assess whether potential benefits outweigh social costs
The LARR Act 2013 mandates that a Social Impact Assessment must be conducted for land acquisitions to determine whether the potential public benefits of the project outweigh the social costs and hardships imposed on the affected

communities. This assessment must consider the impact on livelihoods and social ties, ensuring that the acquisition is justifiable and that proper rehabilitation and resettlement plans are in place.

115. (A) Beneficiaries in informal sectors often lack formal income proof
A major challenge in implementing the CLSS vertical is that many potential beneficiaries work in the informal sector and lack formal income proof, such as salary slips or tax returns. This makes it difficult for them to meet the standard credit appraisal criteria of banks and lending institutions. Addressing this gap requires innovative credit assessment methods to ensure that the interest subsidy reaches those who need it.

116. (A) Both A and R are true and R is the correct explanation of A
Providing basic services like water and sanitation is a vital first step in slum upgrading, as it yields immediate public health benefits for the entire urban area. Improved hygiene reduces the spread of diseases, which protects both the slum residents and the broader city population. This environmental improvement can be initiated even before long-term issues like legal tenure are fully resolved, leading to a safer urban environment.

117. (B) Row housing or walk-up apartments arranged in compact clusters
To minimize the length of utility networks while maximizing density, planners should prioritize compact housing typologies like row housing or walk-up apartments arranged in clusters. This layout concentrates the demand for water and sewer lines in a smaller geographic area, reducing the total infrastructure required per household. Compact development is more cost-effective for municipal authorities and promotes higher land utilization efficiency in urban areas.

118. (C) Building affordable housing on land freed from the land mafia
In Madhya Pradesh, "SURAJ" colonies are affordable housing projects built on government land that has been freed from illegal encroachment by the land mafia. This initiative converts recovered land into organized residential areas for the poor, providing them with dignified living spaces. The policy serves a dual purpose of enforcing the rule of law and addressing the acute shortage of land for affordable housing development.

119. (C) Statement I is correct but Statement II is incorrect
PMAY-U significantly converges with the AMRUT mission to ensure that new affordable housing projects have access to essential bulk water supply and sewerage connections. This collaboration is crucial for making the housing units habitable and sustainable. Statement II is incorrect because AMRUT does not exclude housing zones; instead, it specifically targets improving basic urban infrastructure across cities, including those areas designated for low-income residential development.

120. (A) Housing shortage is a static figure that remains constant over a decade until the next census.
Housing shortage is not a static figure; it is a dynamic value that changes as the population grows and existing buildings age. Factors like rural-urban migration and the trend toward smaller, nuclear families constantly increase the demand for new units. Additionally, the ongoing obsolescence of older housing stock means that the shortage must be periodically re-estimated to accurately inform national and state-level housing policies and interventions.

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Q. Public Bicycle Sharing (PBS)
R. Pedestrian refuge island
S. Skywalk

List II: (Primary Function)

1. Provides a safe waiting area in the middle of a wide road crossing
2. Connects transit stations directly to major building complexes above ground
3. Enhances first and last-mile connectivity
4. Guides visually impaired users along the footpath

(A) P-4, Q-3, R-1, S-2
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-1, R-3, S-2
(D) P-1, Q-2, R-4, S-3

44. Which of the following statements regarding walking and cycling as primary modes of transport is INCORRECT?
(A) They require higher capital investment per user than building urban expressways
(B) They contribute zero tailpipe emissions, helping to improve city air quality
(C) They are highly space-efficient compared to single-occupancy private cars
(D) They improve general public health outcomes through active daily transportation

45. A town planner is designing a street network prioritizing directness for NMT users. Which competency best reflects this objective?
(A) Designing cul-de-sacs that force cyclists onto high-speed arterial roads
(B) Creating a highly permeable grid network with frequent pedestrian and cycle-only cut-throughs
(C) Eliminating all mid-block pedestrian crossings to improve vehicle flow
(D) Mandating that cyclists follow the exact same long one-way loops designed for cars

46. What does the term "Equivalent Car Space" (ECS) signify in parking planning and management?
(A) The ratio of electric vehicles to internal combustion engine vehicles in a public lot
(B) The physical area required to park one standard car, including maneuvering space
(C) The maximum height permitted for a multi-level car parking structure
(D) The monetary fee charged per hour for an on-street parking space

47. All of the following are modern policy instruments used for parking management to reduce urban congestion, EXCEPT:
(A) Mandating universally free and unlimited on-street parking in central districts
(B) Implementing dynamic or variable parking pricing based on demand
(C) Enforcing strict time limits for on-street parking in commercial zones
(D) Establishing permit zones to regulate residential parking for local inhabitants

48. Which of the following statements correctly differentiates on-street parking from off-street parking?
(A) On-street parking refers to multi-level structures, while off-street occurs curbside
(B) Off-street parking is primarily managed by traffic police using speed cameras
(C) On-street parking uses road space, while off-street parking is in dedicated lots
(D) On-street parking requires a higher ECS area per vehicle than off-street parking

49. In urban planning guidelines, which type of development typically demands the highest parking space requirement (ECS per 100 sq.m of built-up area)?
(A) Low-income group housing and residential zones
(B) Primary schools
(C) Public parks and open spaces
(D) High-end retail malls and commercial complexes

50. Read the following statements regarding Smart Parking Systems:
Statement I: They rely on ground sensors and IoT technology to provide real-time parking availability data to users via mobile apps.
Statement II: They inherently increase the total physical land area dedicated to parking in a city.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

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R. Unified Metropolitan Transport Authority
S. National Urban Transport Policy

List II: (Description)

1. Emphasizes moving people rather than moving vehicles
2. Coordinates various transport agencies within a city
3. Includes e-rickshaws and shared taxis
4. Explores ferry systems as an alternative urban mode

(A) P-3, Q-4, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-4, S-3

8. Which of the following statements regarding the four-step transport demand model is INCORRECT?
(A) Trip generation estimates the number of trips originating from or destined for a traffic analysis zone.
(B) Trip distribution links trip origins to trip destinations.
(C) Traffic assignment allocates estimated trips to specific routes on the transportation network.
(D) Modal split determines the specific route a vehicle will take on the highway network.

9. Arrange the sequential steps of the traditional four-step transport demand modelling process in the correct chronological order:
I. Traffic Assignment
II. Trip Generation
III. Modal Split
IV. Trip Distribution
(A) II, IV, III, I
(B) II, III, IV, I
(C) IV, II, III, I
(D) III, II, IV, I

10. Which of the following best defines "Headway" in public transport planning strategies?
(A) The physical distance between the origin and destination of a transit route
(B) The total time a vehicle takes to complete a round trip including layover time
(C) The time interval between two successive transit vehicles moving in the same direction on a route
(D) The maximum passenger capacity of a transit vehicle divided by its operating speed

11. All of the following are primary considerations for determining the location of a bus depot in urban planning, EXCEPT:
(A) Proximity to major trip generators to minimize dead mileage
(B) Availability of adequate land for parking and maintenance facilities
(C) Compatibility with surrounding land uses to minimize noise and emission impacts
(D) Direct integration with air traffic control systems

12. Which of the following statements accurately describes a core principle of Transit-Oriented Development (TOD)?
(A) It promotes dense, mixed-use development within walking distance of high-capacity transit stations.
(B) It encourages low-density residential sprawl away from transit stations.
(C) It mandates the separation of commercial and residential land uses near transit nodes.
(D) It prioritizes maximum surface parking provision around suburban rail stations.

13. What is the primary objective of undertaking "route rationalisation" in urban public transport planning?
(A) To maximize overlapping transit routes to provide high frequency in low-density suburbs
(B) To improve fleet utilization and network efficiency by eliminating redundant routes
(C) To strictly replace all existing bus services with expensive Light Rail Transit systems
(D) To increase the dead mileage of transit vehicles to expand total territorial coverage

14. Read the following statements regarding Public-Private Partnership (PPP) models in urban transport:
Statement I: In a Gross Cost Contract (GCC), the private operator bears the revenue risk associated with ticket sales.
Statement II: In a Net Cost Contract (NCC), the private operator retains the fare revenue and absorbs the ridership risk.
Which of the above statement(s) is/are correct?
(A) Statement I only

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(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

15. Consider the following guidelines typically associated with Transit-Oriented Development (TOD):
I. Enhanced Floor Area Ratio (FAR) along transit corridors.
II. Promotion of multi-modal integration at transit stations.
III. Mandating high boundary walls for residential properties near transit stations.
IV. Provision of unbundled parking and reduced parking minimums.
Which of the above statement(s) is/are correct?
(A) I, II and III only
(B) II, III and IV only
(C) I, II and IV only
(D) I, III and IV only

16. In the context of the Bhopal Metro Rail project, which planning strategy is most critical for ensuring last-mile connectivity for passengers alighting at metro stations?
(A) Developing high-speed expressways and arterial bypasses parallel to the metro alignment
(B) Providing trunk bus services that run exactly on the same route as the metro alignment
(C) Implementing feeder systems such as e-rickshaws and public bicycle sharing
(D) Relocating the central business district to the city periphery to reduce core congestion

17. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Multi-modal integration at transit interchanges significantly increases the overall public transport ridership.
Reason (R): It reduces transfer penalties by providing seamless physical, informational, and fare integration for commuters.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

18. Which of the following pairs regarding public transport financing and concepts is correctly matched?
(A) Land Value Capture - Taxing the general public equally regardless of proximity to transit
(B) Real-time Passenger Info - A static printed timetable posted at bus stops
(C) Integrated Ticketing - A single payment medium usable across different public transit modes
(D) UDAN Scheme - Focuses exclusively on intra-city bus transport financing

19. Match List I with List II and select the correct answer using the codes given below:
List I: (Transport Concept)
P. Trunk and Feeder System
Q. Gross Cost Contract
R. Urban Air Mobility
S. Transit-Oriented Development
List II: (Application Strategy)
1. Operator paid based on kilometers operated
2. High-capacity corridors supported by local access routes
3. Drones and eVTOLs for city passenger transit
4. Mixed land use densification
(A) P-2, Q-1, R-3, S-4
(B) P-1, Q-2, R-4, S-3
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-4, R-3, S-1

20. Which of the following statements about the "Level of Service" (LOS) concept in traffic management is INCORRECT?
(A) LOS A represents free-flow traffic conditions with high speeds and low density.
(B) LOS is a qualitative measure describing operational conditions within a traffic stream.
(C) LOS F indicates forced or breakdown flow where demand exceeds capacity.
(D) LOS is determined exclusively by the pavement material used on the roadway.

21. A city planner is tasked with alleviating congestion at a major urban intersection where traffic volumes fluctuate unpredictably throughout the day. Which of the following

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signal design strategies represents the highest level of competency for this specific scenario?
(A) Deploying an adaptive traffic control system that responds to real-time traffic demand
(B) Installing a pre-timed fixed signal with a uniform 60-second cycle length
(C) Removing the signal entirely and implementing a multi-lane unchannelized rotary
(D) Restricting all right-turning movements permanently during operating hours

22. Which of the following best defines a "black spot" in the context of road safety and traffic management?
(A) An area of the city completely devoid of street lighting
(B) A parking zone reserved exclusively for night-time heavy freight vehicles
(C) A segment of a road with a high frequency of recorded road traffic accidents
(D) A toll plaza where electronic toll collection systems frequently fail

23. All of the following are standard components of an Intelligent Transport System (ITS) in urban areas, EXCEPT:
(A) Manual traffic hand signals by intersection wardens
(B) Advanced Traveler Information Systems
(C) Automatic Number Plate Recognition (ANPR) cameras
(D) Variable Message Signs (VMS) on arterial roads

24. Which of the following statements accurately reflects the philosophy of the "Vision Zero" concept in road safety?
(A) It accepts that a certain number of traffic fatalities are unavoidable in complex urban networks.
(B) It assumes that traffic accidents are solely the responsibility of the individual road user.
(C) It prioritizes zero traffic delay for motorized vehicles over pedestrian safety.
(D) It aims to eliminate all traffic fatalities and severe injuries through safe system design.

25. What is the fundamental purpose of conducting a traffic volume count survey in urban transportation planning?
(A) To determine the structural integrity and load-bearing capacity of a bridge
(B) To assess volumes of vehicles or pedestrians passing a specific point over time
(C) To measure the exhaust emissions and pollutants of heavy commercial vehicles
(D) To calculate the exact land value and taxation rates adjacent to a highway

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26. Read the following statements regarding the Comprehensive Mobility Plan (CMP):
Statement I: A CMP integrates land use planning with transportation planning to address long-term mobility needs.
Statement II: A CMP focuses exclusively on constructing new flyovers and widening existing roads for private cars.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

27. Consider the following traffic calming measures:
I. Speed humps
II. Chicanes
III. Grade-separated expressways
IV. Raised pedestrian crossings
Which of the above statement(s) are typically utilized to reduce vehicle speeds in residential zones?
(A) I, II and III only
(B) I, II and IV only
(C) II, III and IV only
(D) I, III and IV only

28. Which of the following systems is most directly used by transit agencies to track the real-time location of a bus fleet?
(A) Automatic Vehicle Location (AVL) System using GPS
(B) Ground Penetrating Radar (GPR)
(C) Static Route Timetables
(D) Adaptive Traffic Signal Actuators

29. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):

Assertion (A): Establishing dedicated urban logistics zones on the outskirts of cities improves central city traffic flow.
Reason (R): It allows for the consolidation of freight, preventing heavy commercial vehicles from entering congested urban cores during peak hours.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

30. Which of the following pairs of traffic management concepts is correctly matched?
(A) Traffic Calming - Increasing the turning radii at intersections to increase vehicle speed
(B) Area Traffic Control System - Coordination of a network of traffic signals using a central computer
(C) Peak Hour Analysis - Measuring the lowest traffic volume recorded at midnight
(D) ANPR Technology - Used primarily for measuring pedestrian walking speeds

31. Match List I with List II and select the correct answer using the codes given below:
List I: (Intersection Type)
P. Signalized Intersection
Q. Roundabout
R. Grade Separator
S. Channelized Intersection
List II: (Design Principle)
1. Uses traffic islands to direct specific traffic streams
2. Completely separates conflicting traffic streams vertically
3. Uses yield control and circular traffic flow
4. Alternates right-of-way using timed colored lights
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-2, R-3, S-1
(D) P-1, Q-3, R-2, S-4

32. Which of the following statements regarding intersection capacity analysis is INCORRECT?
(A) Capacity is defined as the maximum hourly rate at which vehicles can reasonably pass through an intersection.
(B) The presence of heavy commercial vehicles decreases the effective capacity of an intersection.
(C) Increasing the green time for a specific approach infinitely increases the overall intersection capacity.
(D) The saturation flow rate is a critical parameter in determining signalized intersection capacity.

33. Arrange the following stages of implementing a Comprehensive Mobility Plan (CMP) in the correct chronological order:
I. Data collection and existing situation analysis
II. Formulation of alternative mobility strategies
III. Defining vision and goals for urban mobility
IV. Selection and preparation of the final mobility plan
(A) I, III, II, IV
(B) III, I, II, IV
(C) I, II, III, IV
(D) III, II, I, IV

34. Which of the following best defines the concept of "Pedestrianisation" in Non-Motorized Transport (NMT) planning?
(A) Designing high-capacity footpaths exclusively adjacent to regional expressways
(B) Mandating pedestrians to wear high-visibility clothing while walking at night
(C) The conversion of streets for exclusive pedestrian use by restricting vehicles
(D) Replacing all surface pedestrian crossings with underground subway or skywalk systems

35. All of the following are fundamental components of an inclusive NMT network designed for disabled and elderly populations, EXCEPT:
(A) Tactile paving for visually impaired users
(B) High pedestrian overbridges accessed exclusively by stairs
(C) Dropped kerbs or kerb ramps at pedestrian crossings
(D) Adequate resting places and street furniture along walking corridors

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36. Which of the following statements correctly describes a principle of the "Streets for People" framework?
(A) Streets should primarily function as corridors for rapid motorized vehicle movement.
(B) Cycle tracks must always share the same lane with high-speed heavy vehicles.
(C) On-street parking should be maximized to serve as a buffer for pedestrians.
(D) Design emphasis should shift from vehicle mobility to equitable access and safety for all users.

37. In NMT planning, what is the primary purpose of designating a "School Safety Zone"?
(A) To implement traffic calming and safe crossing infrastructure to protect vulnerable children
(B) To increase the speed limit for school buses to reduce travel time
(C) To provide dedicated parking areas for heavy goods vehicles near educational institutions
(D) To restrict all walking and cycling activities near schools

38. Read the following statements regarding Non-Motorized Transport (NMT) infrastructure:
Statement I: A shared lane (or sharrow) provides a physical, elevated barrier separating cyclists from motor vehicles.
Statement II: A separated cycle track minimizes conflicts between cyclists and fast-moving motorized traffic.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

39. Consider the following provisions typically included in urban transport guidelines for sustainable development:
I. Promotion of non-motorized transport (NMT) infrastructure.
II. Funding for large-scale urban expressways that bypass city cores.
III. Creation of green spaces and parks with pedestrian pathways.
IV. Enhancing last-mile connectivity to public transit hubs.
Which of the above statement(s) is/are correct?
(A) I, II and III only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II, III and IV

40. The successful pedestrianisation of the "Chappan Dukan" area in Indore serves as an exemplary case study primarily for which urban planning outcome?
(A) Maximizing on-street parking revenue
(B) Increasing the average speed of motorized traffic passing through the market
(C) Implementing high-speed grade separators in commercial zones
(D) Creating a vibrant, safe public space by removing motorized vehicular conflict

41. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): At-grade pedestrian crossings with traffic calming are often preferred over skywalks in dense urban markets.
Reason (R): Skywalks increase the physical effort and detour distance for pedestrians, often leading to poor utilization.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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42. Which of the following pairs regarding cycle track design is correctly matched?
(A) Shared lane - Complete physical separation from motorized traffic using bollards
(B) Separated cycle track - Exclusively painted markings on a high-speed arterial road
(C) Bi-directional cycle track - Accommodates cyclist movement in both directions on one side of the road
(D) Advisory cycle lane - Mandates that motorized vehicles can never cross into the lane under any circumstance

43. Match List I with List II and select the correct answer using the codes given below:
List I: (NMT Element)
P. Tactile paving

CHAPTER 09
Urban Transport and Mobility Planning

1. Which of the following road classifications is primarily designed to provide access to abutting properties rather than prioritizing mobility?
(A) Arterial roads
(B) Sub-arterial roads
(C) Collector streets
(D) Local streets

2. Read the following statements regarding Right of Way (ROW) standards:
Statement I: The ROW for an arterial road in a large city is generally recommended to be between 50 to 80 meters.
Statement II: Collector streets require a wider ROW than sub-arterial roads to accommodate heavier public transit routing.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

3. Consider the following statements regarding grade separators and flyovers in urban transport planning:
I. They are implemented to eliminate crossing conflicts at heavily congested intersections.
II. Their construction invariably improves pedestrian connectivity across the intersection at grade level.
III. They are recommended when the intersection volume exceeds the capacity of an at-grade signalized intersection.
IV. They are the preferred first-line intervention in the Vision Zero approach for urban core areas.
Which of the above statement(s) is/are correct?
(A) I and III only
(B) I, II and III only
(C) II and IV only
(D) I, III and IV only

4. In the context of Madhya Pradesh, the "iBus" system successfully operational in Indore is an example of which type of urban transit system?
(A) Light Rail Transit (LRT)
(B) Intermediate Public Transport (IPT)
(C) Monorail System
(D) Bus Rapid Transit System (BRTS)

5. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The four-step transport demand model is widely used for forecasting future traffic volumes in urban areas.
Reason (R): It strictly relies on real-time adaptive traffic signal data to assign trips to the road network.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

6. Which of the following pairs of rail-based urban transit systems and their characteristics is correctly matched?
(A) Suburban Rail - Designed for short-distance trips within the Central Business District
(B) Metro Rail - Operates exclusively at-grade mixed with regular vehicular traffic
(C) Monorail - Operates on a single rail and is highly suitable for dense, narrow urban corridors
(D) Light Rail Transit (LRT) - Characterized by the highest passenger capacity among all rail modes

7. Match List I with List II and select the correct answer using the codes given below:
List I: (Urban Transport Term)
P. Intermediate Public Transport
Q. Waterways

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51. Consider the following parking policy reforms being adopted in urban planning:
I. Eliminating mandatory minimum parking requirements for new developments near transit hubs.
II. Introducing parking maximums to discourage private vehicle use.
III. Providing unbundled parking where parking spaces are sold/rented separately from residential units.
IV. Subsidizing the cost of multi-level car parking to guarantee free usage for all citizens.
Which of the above statement(s) is/are correct?
(A) I, II and IV only
(B) II, III and IV only
(C) I, II and III only
(D) I, III and IV only

52. The development of the Multi-Level Car Parking (MLCP) facility in Ujjain near the Mahakal Lok corridor primarily addresses which urban planning challenge?
(A) Providing long-term parking solutions for the city's suburban worker population
(B) Integrating waterways with urban road transport networks
(C) Testing automated flying vehicle technology such as autonomous eVTOL drones
(D) Managing fluctuating parking demand from high footfall without using vast land

53. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Urban planners are increasingly adopting "parking as a demand management tool" rather than just a supply requirement.
Reason (R): By properly pricing and limiting parking availability, cities can disincentivize private car usage and promote public transport.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

54. Which of the following pairs regarding parking facilities is correctly matched?
(A) Park and Ride facility - Parking located directly inside a shopping mall for shoppers only
(B) Basement parking - Parking located on the rooftop of commercial buildings
(C) Podium parking - Parking provided on the lower above-ground floors of a high-rise building
(D) Automated MLCP - A flat, open-ground parking lot managed by manual ticketing

55. Match List I with List II and select the correct answer using the codes given below:
List I: (Parking Management Strategy)
P. Congestion Pricing
Q. Time-limited parking
R. Dynamic Pricing
S. Residential Permits
List II: (Outcome/Feature)
1. Increases parking fees during peak demand hours
2. Charges vehicles a fee to enter a crowded central zone
3. Prioritizes local inhabitants over commuters for street parking
4. Ensures high turnover of parking spaces in retail areas
(A) P-2, Q-4, R-1, S-3
(B) P-1, Q-2, R-4, S-3
(C) P-4, Q-1, R-3, S-2
(D) P-2, Q-3, R-1, S-4

56. Which of the following statements about Electric Vehicle (EV) charging infrastructure in parking planning is INCORRECT?
(A) Building bye-laws are being amended to mandate EV charging readiness in a percentage of new parking spots.
(B) EV charging spots require distinct signage and management to prevent usage by internal combustion engine vehicles.
(C) Charging infrastructure planning must account for the additional electrical load on the building's power grid.
(D) Installing DC fast chargers is technically impossible within multi-level basement parking facilities.

57. Arrange the following steps for establishing a Public Bicycle Sharing (PBS) system in the correct chronological order:
I. Identification of station locations and

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completely to purchase separate tickets for the next mode
(C) Providing exclusively open-air, unshaded transfer paths to reduce construction costs
(D) Minimizing walking distances and vertical changes for transferring passengers

73. In terms of Passenger Car Unit (PCU) values used for capacity analysis in India, a standard bicycle typically has a PCU value that is:
(A) Greater than a bus
(B) Equal to a heavy commercial vehicle
(C) Less than a standard passenger car
(D) Equal to a horse-drawn carriage

74. Read the following statements regarding Adaptive Traffic Control Systems (ATCS):
Statement I: ATCS uses algorithms and real-time data from sensors to adjust traffic signal timings dynamically.
Statement II: ATCS is incapable of providing priority signals for emergency vehicles or BRTS buses.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

75. Consider the following metrics often evaluated for pedestrian-friendly street design:
I. Percentage of shaded pedestrian walkways.
II. Availability of continuous, obstacle-free footpaths.
III. Frequency of high-speed motorized vehicle racing events.
IV. Provision of safe, at-grade pedestrian crossings.
Which of the above statement(s) is/are correct?
(A) I, II and IV only
(B) II, III and IV only
(C) I, III and IV only
(D) I, II and III only

76. Jabalpur's implementation of smart traffic management systems under the Smart Cities Mission primarily aims to achieve which of the following?
(A) Optimization of flow and automated enforcement via integrated command centres
(B) Total replacement of public buses with a network of personal rapid transit pods
(C) Prohibition of all non-motorized transport vehicles within municipal limits
(D) Conversion of all signalized intersections into grade-separated expressways

77. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The provision of tactile paving on footpaths is a mandatory requirement for inclusive urban transport design.
Reason (R): Tactile paving assists visually impaired individuals in navigating safely by warning them of hazards and guiding them along the path.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

78. Which of the following pairs regarding pedestrian infrastructure is correctly matched?
(A) Zebra crossing - A painted crossing providing priority for pedestrians at major intersections
(B) Pelican crossing - A pedestrian crossing with signals that can be operated by the pedestrians
(C) Pedestrian refuge island - An elevated walkway connecting two high-rise buildings
(D) Skywalk - A painted crosswalk at a minor unsignalized intersection

79. Match List I with List II and select the correct answer using the codes given below:
List I: (Road Safety Term)
P. Traffic Calming
Q. Black Spot
R. Vision Zero
S. Road Safety Audit
List II: (Definition)
1. A proactive assessment of road design to identify safety risks
2. Physical measures designed to reduce motorized vehicle speeds
3. A location with a historically high concentration of severe accidents

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Area Ratios (FAR) in the immediate vicinity of transit stations.
Reason (R): High-density development near transit hubs ensures a captive ridership base, increasing the financial viability of the public transport system.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

66. Which of the following pairs relating to transport modelling is correctly matched?
(A) Trip Generation - Determines if trips will be made by bus, car, or walking
(B) Modal Split - Assigns the exact street path a vehicle will take
(C) Trip Distribution - Determines the destination of the generated trips
(D) Traffic Assignment - Calculates the number of trips originating from a household based on income

67. Match List I with List II and select the correct answer using the codes given below:
List I: (Road/Transit Feature)
P. Arterial Road
Q. Local Street
R. Bus Rapid Transit System
S. Light Rail Transit (LRT)
List II: (Characteristic)
1. Provides direct access to individual residential plots
2. Rail-based system often operating in mixed or segregated right-of-way
3. Carries heavy volumes of traffic across the city with limited access
4. Rubber-tired system featuring dedicated central lanes
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-1, R-2, S-4
(D) P-4, Q-2, R-3, S-1

68. Which of the following statements about urban freight movement is INCORRECT?
(A) Freight movement is critical to the economic vitality of a city.
(B) Establishing urban consolidation centres can reduce the number of large trucks entering the city centre.
(C) Curbside management is necessary to balance loading/unloading zones with regular parking and transit stops.
(D) Heavy commercial vehicles (HCVs) are universally permitted on all local residential streets at all hours to ensure fast delivery.

69. A planner is evaluating a proposed new suburban rail line. Based on core transit planning principles, which of the following scenarios suggests the HIGHEST viability for the project?
(A) The alignment connects dense satellite towns with integration at stations
(B) The alignment runs through sparsely populated greenbelt areas with no planned stations.
(C) The proposed stations lack any connecting feeder bus services or NMT infrastructure.
(D) The corridor runs parallel and adjacent to an uncongested toll-free expressway

70. What defines “Route Headway” in transit scheduling?
(A) The total distance of a transit route
(B) The structural clearance required for a high-floor bus to pass under a bridge
(C) The time between arrival of consecutive vehicles on the same route at a stop
(D) The difference in fare between a single ticket and a monthly pass

71. All of the following factors are considered when undertaking bus fleet planning for a city, EXCEPT:
(A) The seating capacity of international passenger aircraft
(B) Projected peak hour passenger demand
(C) Vehicle capacity and turnover time
(D) Maintenance schedules and reserve fleet ratios

72. Which of the following statements correctly identifies a key principle of transit interchange design?
(A) Maximizing the physical separation between different transport modes to reduce crowding
(B) Forcing all passengers to exit the station

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116. Which of the following statements regarding the financial structuring of public transport operations is INCORRECT?
(A) Farebox recovery ratio measures the fraction of operating expenses covered by passenger fares.
(B) Non-farebox revenue sources include advertising, retail leasing at stations, and land value capture.
(C) Subsidizing public transport is often justified by its positive externalities, such as reduced congestion and lower emissions.
(D) Most modern urban mass transit systems globally operate solely on farebox revenue and generate high profits without any government subsidy.

117. An urban planner is tasked with designing an intersection to maximize safety for non-motorized users in a highly active retail district. Which design intervention reflects the most appropriate competency?
(A) Implementing raised crossings and tightening radii to slow turning vehicles
(B) Expanding the intersection to increase vehicle turning radii and speeds
(C) Removing all pedestrian phases from the traffic signal cycle
(D) Constructing a massive grade-separated concrete cloverleaf interchange

118. What is the definition of "Transit Capacity" in urban transportation planning?
(A) The maximum weight a single bus tire can sustain
(B) The total fuel tank volume of a transit vehicle
(C) The maximum passengers or vehicles passing a point per hour on a route
(D) The physical area in square kilometers covered by a transit jurisdiction

119. All of the following are benefits of a well-planned Multi-Modal Integration (MMI) at a transit hub, EXCEPT:
(A) It encourages the use of personal cars by providing free drive-through access on platforms.
(B) It reduces the wait time and friction experienced during transfers.
(C) It provides clear wayfinding and unified passenger information systems.
(D) It physically integrates feeder modes like buses, cycles, and e-rickshaws with the main trunk system.

120. Which of the following statements correctly identifies the purpose of developing "Logistics Zones" on the periphery of an urban area?
(A) To serve as recreational amusement parks for local residents.
(B) To create exclusive residential neighborhoods for transport agency employees
(C) To relocate all urban public bus terminals away from the city center.
(D) A space to unload large freight and consolidate goods for last-mile delivery

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4. A strategy aiming to eliminate all traffic fatalities

(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-1, Q-4, R-3, S-2
(D) P-2, Q-1, R-4, S-3

80. Which of the following statements regarding traffic calming on arterial roads is INCORRECT?
(A) Appropriate speed management on arterials often relies on signal synchronization rather than physical vertical deflections.
(B) Arterial roads function primarily for mobility; hence severe physical traffic calming can disrupt their core function.
(C) Traffic calming measures like speed bumps are universally recommended on high-speed urban expressways and major arterials.
(D) Gateway treatments and narrowing lane widths can be used to subtly manage speeds on urban arterials.

81. Arrange the following urban road classifications from the highest mobility (and highest design speed) to the lowest mobility (and highest accessibility):
I. Collector Street
II. Expressway
III. Local Street
IV. Arterial Road
(A) II, IV, I, III
(B) IV, II, I, III
(C) II, I, IV, III
(D) IV, I, III, II

82. What is the definition of a "Traffic Island" in intersection design principles?
(A) A floating platform used in urban waterways
(B) A heavily congested urban area with no physical road or pedestrian access
(C) A raised area at intersections used to direct traffic and shelter pedestrians
(D) A designated off-street multi-level facility for long-term vehicle parking

83. All of the following are examples of inclusive design practices in Non-Motorized Transport (NMT) planning, EXCEPT:
(A) Installing audible signal systems at all major urban pedestrian crossings
(B) Placing utility poles and transformers in the middle of active footpaths
(C) Designing kerb ramps at all intersections for wheelchair access
(D) Ensuring continuous, well-lit pathways for nighttime safety

84. Which of the following statements correctly addresses women's safety in urban public transport planning?
(A) Ensuring that the speed of the transit vehicle is maximized at all times
(B) Increasing the physical distance between transit stops and residential zones
(C) Ensuring buses are completely dark inside prevents harassment.
(D) Well-lit stops and real-time information systems significantly enhance safety

85. In urban development guidelines, the minimum Equivalent Car Space (ECS) requirement for commercial establishments is generally evaluated based on:
(A) A specific metric per 100 square meters of total built-up area
(B) The number of employees working in the establishment only
(C) The total plot area minus the built-up area
(D) The height of the building regardless of its floor area

86. Read the following statements regarding emerging Urban Air Mobility (UAM) concepts:
Statement I: UAM involves the use of highly automated aircraft, such as passenger drones and eVTOLs, to operate at low altitudes within urban areas.
Statement II: Dedicated schemes regulate UAM drone operations in residential neighborhoods to ensure safety.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

87. Consider the following statements about parking as a demand management tool:
I. Charging high fees for parking in the Central Business District (CBD) encourages a shift toward public transport.
II. Imposing maximum parking limits on

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network planning
II. Assessment of cycle demand and user feasibility
III. Procurement of bicycles and docking infrastructure
IV. Launch of operations and user registration campaign
(A) II, I, III, IV
(B) I, II, III, IV
(C) II, III, I, IV
(D) I, III, II, IV

58. What is the definition of a "Park and Ride" facility in urban mobility planning?
(A) A recreational park where residents are legally permitted to wash their vehicles
(B) A drive-through restaurant facility located on a major urban arterial road
(C) A transit-adjacent facility for commuters to park and transfer to public modes
(D) An exclusive parking zone designated for emergency medical vehicles

59. All of the following are significant disadvantages of relying heavily on expansive surface parking lots in urban cores, EXCEPT:
(A) They contribute to the urban heat island effect.
(B) They disrupt the continuous pedestrian realm and urban street edge.
(C) They represent a low-density, economically inefficient use of high-value land.
(D) They provide the highest vertical density of vehicle storage per square meter.

60. Which of the following statements correctly describes "congestion pricing" as a policy tool?
(A) Levying a surcharge on vehicles entering high-traffic zones during peak periods
(B) Providing a subsidy to all private car owners to help offset rising fuel costs
(C) Establishing a standardized fee charged by traffic police for illegal parking
(D) Restricting public transit fares from increasing during peak hours

61. In the standard urban transport hierarchy, which road category is positioned directly below Arterial roads and functions to connect major city zones?
(A) Expressways
(B) Sub-arterial roads
(C) Local Streets
(D) Collector Streets

62. Read the following statements regarding bus transit systems:
Statement I: A Bus Rapid Transit System (BRTS) achieves higher speeds and reliability due to dedicated right-of-way and off-board fare collection.
Statement II: A standard mixed-traffic city bus system generally offers a higher passenger capacity per hour than a fully functional BRTS.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

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63. Consider the following financing mechanisms for public transport projects:
I. Farebox revenue
II. Value capture financing (e.g., betterment levies)
III. Advertisement rights on transit infrastructure
IV. Redirecting primary healthcare funds exclusively to metro rail
Which of the above statement(s) is/are correct?
(A) I, II and III only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II and IV only

64. In urban development frameworks, which of the following is a primary role of a state-level urban development company?
(A) Issuing driving licenses and vehicle registration documents directly to citizens
(B) Manufacturing rolling stock for the Indian Railways
(C) Channelling funding and technical support for urban infrastructure projects
(D) Managing the national and regional airspace traffic

65. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Transit-Oriented Development (TOD) norms generally permit higher Floor

(A) An isolated industrial estate with no pedestrian access
(B) Adjacent to a major multi-modal transit interchange with retail amenities and MLCP
(C) In the middle of a protected ecological wetland reserve
(D) Along an unpaved local street in a purely low-density residential zone

94. What does the term "Shared Lane" or "Sharrow" imply in Non-Motorized Transport (NMT) planning?
(A) A lane designated exclusively for the use of high-occupancy carpool vehicles
(B) A lane marked to show that cyclists and motor vehicles share the road space
(C) A footpath shared between pedestrians and heavy commercial freight
(D) A strictly segregated track bounded by concrete barriers for bicycles only

95. All of the following are recognized challenges or disadvantages associated with podium parking in high-rise developments, EXCEPT:
(A) It provides a heavily flood-prone parking solution compared to deep basement parking.
(B) It often creates an inactive, unattractive street facade at the pedestrian level.
(C) It can disrupt natural ventilation and lighting for lower floors.
(D) It consumes valuable above-ground floor space that could otherwise be used for active commercial or residential purposes.

96. Which of the following statements best describes the advantage of the National Common Mobility Card (NCMC) integrated ticketing system?
(A) It mandates that users must physically carry exact change in coins for all transit journeys.
(B) It tracks and heavily taxes users who switch between non-motorized and motorized modes.
(C) It allows payment for various transit modes using a single interoperable card
(D) It is valid for international air travel originating from major city airports

97. In the context of national urban transport planning, the central focus should be on:
(A) Widening roads to accommodate future private car growth
(B) Eradicating all forms of Intermediate Public Transport (IPT)
(C) Subsidizing parking spaces in central business districts
(D) Moving people equitably and efficiently, rather than moving vehicles

98. Read the following statements regarding ropeways as urban transport:
Statement I: They are highly suitable for cities with challenging hilly topographies or significant water bodies where road/rail bridges are infeasible.
Statement II: They have a significantly larger spatial footprint on the ground compared to a multi-lane expressway.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

99. Consider the following characteristics of a Transit-Oriented Development (TOD) corridor:
I. High density, mixed-use zoning.
II. Discouragement of pedestrian and cycle networks.
III. Proximity to high-frequency mass transit stations.
IV. Reduced emphasis on private vehicle parking.
Which of the above statement(s) is/are correct?
(A) I, II and III only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II, III and IV

100. The concept of "Unified Metropolitan Transport Authority" (UMTA) implies which of the following administrative structures?
(A) A private corporation solely responsible for selling motorized vehicles
(B) An international agency dictating local traffic and transportation laws
(C) A subdivision of the local police dedicated to managing parking violations
(D) A statutory body coordinating and integrating all urban transport modes

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new developments restricts the supply of parking, disincentivizing driving.

III. Providing abundant, free parking is the primary method to solve urban traffic congestion.

IV. Implementing Residential Parking Permits prevents commuters from exploiting local neighborhood parking spaces.

Which of the above statement(s) is/are correct?

(A) I, II and IV only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II, III and IV

88. The Atal Indore City Transport Services Ltd (AICTSL) operates its bus fleet utilizing which widely recognized public transport management model?

(A) Completely nationalized operation with the government owning buses and directly employing all drivers
(B) A totally unorganized free-market model with no centralized route planning
(C) A strict volunteer-based non-profit transport operation
(D) A Special Purpose Vehicle (SPV) implementing a Public-Private Partnership (PPP) model for fleet operations

89. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):

Assertion (A): Progressive urban parking reforms advocate for the elimination of mandatory minimum parking requirements in building bye-laws.

Reason (R): Eliminating parking minimums allows the market to dictate parking supply, reduces construction costs, and disincentivizes car dependency.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

90. Which of the following pairs regarding Public-Private Partnership (PPP) contracts in public transport is correctly matched?

(A) Net Cost Contract (NCC) - The authority takes all revenue risk and pays the operator a fixed fee per kilometer.
(B) Build-Operate-Transfer (BOT) - A model exclusively used for purchasing bicycles for PBS systems.
(C) Gross Cost Contract (GCC) - The operator is paid a specified rate per kilometer and the authority retains the fare revenue.
(D) Management Contract - The private operator funds the entire capital cost of infrastructure construction.

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91. Match List I with List II and select the correct answer using the codes given below:

List I: (City)

P. Indore
Q. Bhopal
R. Ujjain
S. Jabalpur

List II: (Noted Transport Feature/Project)

1. Pioneering BRTS "iBus" implementation
2. Major metro project underway with priority corridors
3. Ropeway project developed for temple access
4. Major junction improvements and ITMS under Smart City

(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-3, R-2, S-4
(D) P-3, Q-2, R-1, S-4

92. Which of the following statements about the integration of Intermediate Public Transport (IPT) like e-rickshaws is INCORRECT?

(A) They operate on strict fixed schedules and stops like conventional buses
(B) They provide crucial first and last-mile connectivity to high-capacity transit stations.
(C) They offer a flexible and low-cost mobility option in areas where standard buses cannot operate.
(D) E-rickshaws contribute to reducing tailpipe emissions in congested cores

93. A planner is tasked with siting a new public Electric Vehicle (EV) charging hub in a dense city. Which of the following locations demonstrates the highest application of integrated mobility planning?

shopping street
(D) To provide direct access to every individual residential driveway in a large metropolis

109. What is the fundamental difference between fixed-time and adaptive traffic signals?
(A) Fixed-time signals only display red and green lights, while adaptive signals display yellow lights.
(B) Fixed-time signals use pre-set cycles, while adaptive ones adjust in real-time
(C) Fixed-time signals are powered by solar, whereas adaptive ones use the grid
(D) Fixed-time signals are used only for pedestrians, while adaptive signals are for heavy vehicles.

110. Read the following statements regarding the integration of Non-Motorized Transport (NMT) with public transport:
Statement I: Providing safe cycle parking at metro stations encourages commuters to use bicycles for the first and last mile of their journey.
Statement II: NMT integration strategies typically advocate for banning all pedestrians from within 500 meters of a transit hub.
Which of the above statement(s) is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

111. Consider the following methods used for estimating urban parking demand:
I. Zoning ordinance standards (ECS per square meter)
II. Land use based trip generation rates
III. Parking accumulation surveys
IV. Wind tunnel aerodynamic testing
Which of the above statement(s) are applicable to estimating parking demand?
(A) I, II and III only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II and IV only

112. In the context of sustainable mobility, which of the following is most likely to be funded by urban infrastructure development schemes?
(A) Manufacturing of private diesel automobiles
(B) Construction of private residential bungalows
(C) Construction of multi-modal transit hubs and smart roads
(D) Operation of inter-continental airfreight logistics

113. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Establishing high-quality pedestrian infrastructure is critical to the success of a Bus Rapid Transit System (BRTS).
Reason (R): Since BRTS stations are typically located in the median of the road, safe and accessible pedestrian crossings are essential for commuters to reach the stations.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

114. Which of the following pairs regarding multi-level car parking (MLCP) is correctly matched?
(A) Conventional MLCP - Uses hydraulic elevators to lift the entire structure
(B) Podium parking - Underground floors designated strictly for commercial retail
(C) Automated MLCP - Uses mechanical lifts to park vehicles without drivers
(D) Stack parking - Refers to vehicles parked longitudinally along the roadside curb

115. Match List I with List II and select the correct answer using the codes given below:
List I: (Urban Transport Concept)
P. Moving people rather than moving vehicles
Q. Spatial planning and ROW standards
R. Pedestrianization and placemaking
S. Densification around transit nodes
List II: (Policy/Framework)
1. "Streets for People" framework
2. URDPFI Guidelines
3. Transit-Oriented Development Policy
4. National Urban Transport Policy
(A) P-4, Q-2, R-1, S-3
(B) P-2, Q-4, R-3, S-1
(C) P-4, Q-3, R-1, S-2
(D) P-1, Q-2, R-4, S-3

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101. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Cycle tracks should ideally be continuous and visually distinct from regular motor vehicle lanes.
Reason (R): Continuity and distinct visual cues reduce the likelihood of motorized vehicles encroaching into the cycle track, thereby enhancing cyclist safety.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

102. Which of the following pairs concerning transport surveys is correctly matched?
(A) Speed and Delay Survey - Used primarily to calculate the load-bearing capacity of pavement
(B) Parking Survey - Measures the tailpipe emissions of stationary vehicles
(C) Origin-Destination (O-D) Survey - Determines travel patterns and desire lines of commuters
(D) Traffic Volume Count - Identifies the exact home addresses of all drivers

103. Match List I with List II and select the correct answer using the codes given below:
List I: (Transit Acronym)
P. BRTS
Q. TOD
R. NMT
S. UMTA
List II: (Full Form)
1. Non-Motorized Transport
2. Transit-Oriented Development
3. Unified Metropolitan Transport Authority
4. Bus Rapid Transit System
(A) P-4, Q-2, R-1, S-3
(B) P-4, Q-1, R-2, S-3
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-2, R-1, S-4

104. Which of the following statements about Intelligent Transport Systems (ITS) is INCORRECT?
(A) ITS relies on information and communication technologies to improve traffic safety and mobility.
(B) Electronic Toll Collection (ETC) like FASTag is an application of ITS.
(C) Advanced Public Transportation Systems (APTS) use ITS to provide real-time bus arrival information.
(D) ITS completely eliminates the need for physical road infrastructure.

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105. Arrange the following modes of urban public transport in ascending order of their general passenger carrying capacity (from lowest to highest capacity per hour per direction):
I. Heavy Metro Rail
II. Standard City Bus in mixed traffic
III. Shared Auto-Rickshaw (IPT)
IV. Bus Rapid Transit System (BRTS)
(A) III, II, IV, I
(B) II, III, I, IV
(C) III, IV, II, I
(D) IV, III, II, I

106. What defines the "Right of Way" (ROW) in urban transport planning?
(A) The priority given to pedestrians over motorized vehicles at a zebra crossing
(B) The specific legal mandate allowing emergency vehicles to run red lights
(C) The total land width legally dedicated for a road and its appurtenances
(D) The physical width of the paved carriageway meant exclusively for vehicles

107. All of the following represent effective "street furniture" that enhances the pedestrian experience, EXCEPT:
(A) Public seating benches
(B) Waste receptacles
(C) Pedestrian-scale street lighting
(D) High-voltage open electrical transformers

108. Which of the following statements correctly outlines the primary function of a Collector Street?
(A) To collect traffic from local streets and distribute it to arterial and sub-arterial roads
(B) To facilitate long-distance, high-speed regional travel with no direct property access
(C) To serve exclusively as a pedestrianized

ANSWERS

1. (D) Local streets
Urban road networks follow a hierarchical structure where different categories balance mobility and access. While arterials facilitate high-speed travel across regions, local roads prioritize the accessibility of individual buildings and properties. These streets facilitate the beginning or end of journeys within residential neighborhoods, ensuring safe entry to abutting lands rather than serving high-speed through traffic or heavy commercial vehicles.

2. (A) Statement I only
Standard right-of-way requirements for arterial roads in major metropolitan areas typically range from fifty to eighty meters to accommodate multiple lanes and utilities. In contrast, sub-arterial roads require a wider footprint than collector streets because they carry higher traffic volumes between different zones. Collector streets primarily serve to funnel traffic from local roads into the major arterial network.

3. (A) I and III only
Grade separators and flyovers are strategic engineering solutions designed to eliminate physical crossing conflicts at intersections. They are typically proposed when traffic volumes exceed the operational capacity of standard signalized systems. However, these structures often prioritize motorized vehicles and can inadvertently create barriers for pedestrians, making grade-level crossings more difficult and dangerous for those moving on foot.

4. (D) Bus Rapid Transit System (BRTS)
The iBus system in Indore is a prominent example of a bus-based mass transit solution that utilizes dedicated corridors to ensure high speed and reliability. By providing a segregated right-of-way, this system minimizes delays caused by mixed traffic congestion. Such systems are characterized by specialized stations, off-board fare collection, and frequent services aimed at improving public urban mobility.

5. (C) A is true but R is false.
The four-step transport demand model is a fundamental framework used by planners to predict future travel patterns based on land use and demographic data. It typically involves trip generation, distribution, modal split, and traffic assignment. While it is essential for long-term forecasting, it does not rely on real-time adaptive signal data, which is used for immediate traffic management.

6. (C) Monorail - Operates on a single rail and is highly suitable for dense, narrow urban corridors
Monorail systems are specialized rail transit solutions that operate on a single beam, making them ideal for navigating narrow urban streets with tight curves. Unlike suburban rail, which handles long-distance regional commuting, or metro rail, which provides high-capacity grade-separated service, monorails are often used as feeder systems or for specific corridors where space for traditional tracks is unavailable.

7. (A) P-3, Q-4, R-2, S-1
National transport policies emphasize the efficient movement of people through sustainable modes like public transit and walking. Unified authorities are established to coordinate diverse transport agencies within metropolitan regions. Meanwhile, intermediate public transport fills service gaps using shared vehicles like e-rickshaws. Alternative modes, such as water-based ferry systems, are also explored to diversify urban mobility options.

8. (D) Modal split determines the specific route a vehicle will take on the highway network.
Within the classical transportation planning framework, modal split refers to the process of separating total trips into different modes of travel, such as public transit, private cars, or walking. The final step, known as traffic assignment, is responsible for determining the specific paths or routes that vehicles will take through the available road network to reach their destinations.

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26. (A) Statement I only
A Comprehensive Mobility Plan serves as a long-term strategic document that aligns a city's transport objectives with its land use goals. Unlike traditional engineering plans that might only focus on road widening, a modern mobility plan prioritizes sustainable modes like public transit and walking. It aims to provide equitable access for all citizens while reducing the environmental impacts.

27. (B) I, II and IV only
Traffic calming involves the use of physical design features to slow down motorized vehicles and improve safety in residential or pedestrian-heavy areas. Speed humps, chicanes, and raised crossings are common interventions that force drivers to reduce their speed. High-speed expressways, however, are designed for rapid regional movement and are not used as tools for slowing local traffic.

28. (A) Automatic Vehicle Location (AVL) System using GPS
Transit agencies utilize automatic vehicle location systems to monitor their bus fleets in real-time. By integrating global positioning technology with communication networks, dispatchers can track every vehicle's exact position and performance. This data is also used to provide passengers with accurate arrival predictions via mobile apps and digital signs, significantly improving the overall reliability of transit.

29. (A) Both A and R are true and R is the correct explanation of A.
Urban logistics zones located on the outskirts of cities facilitate the efficient management of goods movement. By providing a dedicated space for large trucks to unload, freight can be consolidated into smaller, eco-friendly vehicles for final delivery. This strategy prevents heavy commercial traffic from clogging congested urban roads during peak hours, improving general traffic flow and air quality.

30. (B) Area Traffic Control System - Coordination of a network of traffic signals using a central computer
Area traffic control systems optimize vehicle flow across an urban grid by coordinating multiple signalized intersections simultaneously. This synchronization reduces the number of stops and overall travel time for motorists. In contrast, traffic calming focuses on slowing vehicles down for safety, and peak hour analysis identifies the times of highest demand rather than the lowest midnight volumes.

31. (A) P-4, Q-3, R-2, S-1
Different intersection designs address varying traffic needs through specific engineering principles. Signalized intersections use timed lights to manage right-of-way, while roundabouts rely on circular flow and yield control. Grade separators vertically isolate conflicting traffic streams to eliminate delays. Channelized intersections utilize physical islands to guide specific movements, ensuring smoother and safer transitions for vehicles within the junction.

32. (C) Increasing the green time for a specific approach infinitely increases the overall intersection capacity.
The capacity of an intersection is limited by the total time available in a signal cycle. While increasing the green light for one direction may help that flow, it reduces the time available for other approaches, potentially causing extreme congestion elsewhere. Overall capacity is also influenced by the saturation flow rate and the presence of slow-moving heavy vehicles.

33. (B) III, I, II, IV
Developing a comprehensive mobility plan begins with defining a clear vision and long-term goals for the city. Once the objectives are set, planners collect extensive data to analyze current conditions. This leads to the formulation of various alternative strategies to address identified problems. Finally, the most effective plan is selected and detailed for implementation to guide growth.

34. (C) The conversion of streets for exclusive pedestrian use by restricting vehicles
Pedestrianisation is a planning strategy that involves removing motorized vehicles from specific streets or zones to prioritize those traveling on foot. This practice often transforms commercial areas into vibrant public spaces where people can walk, shop, and socialize safely. By eliminating the noise, pollution, and safety

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coordinating schedules, physical layouts, and ticketing systems, planners significantly reduce the time and effort required for commuters to complete complex trips. This seamless experience removes common barriers to using public transit, which naturally leads to a substantial increase in ridership.

18. (C) Integrated Ticketing - A single payment medium usable across different public transit modes
Modern urban transport systems utilize integrated ticketing to allow commuters to use a single card or app for all their journeys, regardless of the operator. This convenience simplifies the travel experience by eliminating the need for multiple tickets. Other concepts, like land value capture, involve recovering infrastructure costs from increased property values rather than taxing the general public.

19. (A) P-2, Q-1, R-3, S-4
Urban mobility strategies often combine diverse approaches to manage travel demand. Trunk and feeder systems use high-capacity corridors supported by local routes to expand coverage. Gross cost contracts pay operators for the distance they drive, ensuring service stability. Emerging technologies like urban air mobility introduce vertical transit options, while transit-oriented development focuses on creating dense, mixed-use neighborhoods.

20. (D) LOS is determined exclusively by the pavement material used on the roadway.
Level of service is a standardized qualitative measure used by traffic engineers to describe the operational quality of a road. It ranges from free-flow conditions at the highest level to complete congestion and breakdown at the lowest. While factors like speed, density, and delay define these levels, the type of pavement material used for construction is not a metric.

21. (A) Deploying an adaptive traffic control system that responds to real-time traffic demand
Managing intersections with unpredictable traffic patterns requires flexible technology that can adjust to fluctuating demand. Adaptive traffic control systems use sensors to detect vehicle presence and automatically modify signal timings to minimize delays. This approach is far more efficient than fixed-time signals or permanent turn restrictions, as it optimizes throughput based on actual, real-time conditions rather than historical averages.

22. (C) A segment of a road with a high frequency of recorded road traffic accidents
In the field of road safety, a black spot identifies a specific location or stretch of road where traffic accidents occur frequently. These sites are prioritized for engineering interventions, such as improved lighting, better signage, or redesigned intersections, to reduce the risk of future collisions. Identifying these locations is a core component of data-driven road safety management programs.

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23. (A) Manual traffic hand signals by intersection wardens
Intelligent transport systems leverage advanced technology to enhance the efficiency and safety of urban mobility. Common components include variable message signs, automated number plate recognition, and traveler information systems that provide real-time updates. While manual traffic control by wardens is a traditional method used during emergencies or power outages, it is not considered a high-technology system component.

24. (D) It aims to eliminate all traffic fatalities and severe injuries through safe system design.
Vision Zero is a transformative road safety philosophy based on the ethical premise that no loss of life is acceptable on the road network. It shifts the focus from individual road user errors to systemic design. By creating infrastructure that accounts for human fallibility, the goal is to ensure that mistakes do not result in fatal or severe injuries.

25. (B) To assess volumes of vehicles or pedestrians passing a specific point over time
Traffic volume count surveys are essential for understanding how many users are utilizing a specific road or intersection at different times. This data helps planners determine existing capacity utilization and justify the need for infrastructure upgrades like road widening or new signals. These surveys provide the foundational evidence required for designing efficient transportation systems that match actual demand levels.

features to slow down cars. A black spot is a location with many accidents. Vision Zero is a broad policy goal aiming to eliminate all traffic-related deaths. Finally, a road safety audit is a proactive examination of design to identify and mitigate potential risks.

80. (C) Traffic calming measures like speed bumps are universally recommended on high-speed urban expressways and major arterials.
While traffic calming is essential for local streets, physical measures like speed bumps are inappropriate for high-speed arterials. These roads are designed for mobility, and sudden vertical deflections can cause dangerous accidents. Instead, speed on these routes is better managed through lane narrowing, gateway treatments, or the synchronization of traffic signals to maintain a safe, steady flow.

81. (A) II, IV, I, III
Urban roads are organized from those prioritizing rapid movement to those providing maximum property access. Expressways sit at the top, followed by arterial roads that carry heavy traffic volumes. Collector streets serve to transition vehicles from these major routes down to the local streets. Local streets represent the lowest level of mobility, as their primary role is access.

82. (C) A raised area at intersections used to direct traffic and shelter pedestrians
Traffic islands are physical structures built at an intersection to manage vehicle movement. They help channelize different traffic streams, such as separating turning vehicles from through traffic. Additionally, they provide a vital refuge or safe waiting area for pedestrians who are crossing wide, multi-lane roads, allowing them to cross in stages rather than all at once.

83. (B) Placing utility poles and transformers in the middle of active footpaths
Inclusive design focuses on making the environment accessible to everyone, including wheelchair users. Features like audible signals and kerb ramps are essential. However, placing utility infrastructure in the middle of a path creates a physical obstruction. This forces pedestrians into the street, which is dangerous and completely violates the principles of inclusive design and safe urban walking networks.

84. (D) Well-lit stops and real-time information systems significantly enhance safety
Enhancing safety for women in public transport requires a combination of physical design and technological solutions. Providing bright lighting at bus stops and along pathways reduces the risk of harassment and improves security. Real-time information systems also help by minimizing the time spent waiting in isolated locations, making the overall experience of using transit safer and more reliable.

85. (A) A specific metric per 100 square meters of total built-up area
Building bye-laws establish parking standards based on the intensity of land use. For commercial developments, the required number of equivalent car spaces is typically calculated using the total built-up area as a baseline. This ensures that the parking supply is proportional to the expected volume of visitors, preventing excessive on-street parking that would otherwise block city traffic flow.

86. (A) Statement I only
Urban air mobility is an innovative transport concept that utilizes automated aircraft like passenger drones to move people within cities. These vehicles fly at low altitudes to bypass ground-level congestion. While the technology is advancing rapidly, comprehensive schemes specifically for residential drone operations are still in the early stages of development and regulation across most global urban jurisdictions.

87. (A) I, II and IV only
Parking policies are effective tools for influencing how people choose to travel. High fees in central districts and strict maximum limits both serve to discourage private car use. Furthermore, residential permits protect neighborhoods from being overwhelmed by commuter parking. Conversely, providing abundant free parking only serves to increase traffic congestion and is not a recognized method for solving mobility challenges.

88. (D) A Special Purpose Vehicle (SPV) implementing a Public-Private Partnership (PPP) model for fleet operations
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risks associated with cars, cities can create more attractive and livable environments.

35. (B) High pedestrian overbridges accessed exclusively by stairs
Inclusive non-motorized transport design ensures that the entire population, including those with disabilities or limited mobility, can navigate the city independently. Key features include tactile paving, dropped kerbs, and adequate resting areas. However, high overbridges that only provide stairs are not inclusive because they act as physical barriers for wheelchair users and the elderly who require ramps.

36. (D) Design emphasis should shift from vehicle mobility to equitable access and safety for all users.
The "Streets for People" framework advocates for a paradigm shift in urban design where roads are seen as multi-functional public spaces rather than just corridors for cars. This approach prioritizes the safety and comfort of vulnerable users like pedestrians and cyclists. By allocating space more equitably, cities can create environments that support social interaction and sustainable transportation.

37. (A) To implement traffic calming and safe crossing infrastructure to protect vulnerable children
School safety zones are designated areas around educational institutions where specific infrastructure is installed to protect children. These measures include lower speed limits, better signage, and raised pedestrian crossings that force drivers to slow down. By prioritizing the safety of young walkers and cyclists, these zones encourage families to choose active modes for their daily school commute.

38. (B) Statement II only
Separated cycle tracks provide a dedicated space for cyclists that is physically isolated from motorized traffic, which significantly enhances safety and comfort. In contrast, shared lanes, or sharrows, do not offer any physical barriers; they are simply markings indicating that bicycles and cars must share the same space. Therefore, only separated infrastructure effectively minimizes the risk of conflicts.

39. (B) I, III and IV only
Sustainable urban transport guidelines focus on enhancing non-motorized infrastructure, improving last-mile connectivity, and creating green urban spaces. These priorities aim to reduce dependence on private vehicles and promote environmental health. While large expressways can facilitate regional travel, they are often not the primary focus of sustainability-led urban transport frameworks, which emphasize human-scale mobility and transit.

40. (D) Creating a vibrant, safe public space by removing motorized vehicular conflict
The transformation of the Chappan Dukan area in Indore is a landmark project that demonstrates the benefits of pedestrianisation. By restricting motorized vehicles, the market was turned into a safe and welcoming destination for visitors. This change improved air quality, enhanced the shopping experience, and created a high-quality public realm, showcasing how urban spaces can be reclaimed.

41. (A) Both A and R are true and R is the correct explanation of A.
Planners often prefer at-grade pedestrian crossings over skywalks in busy areas because they are more convenient for users. Skywalks require pedestrians to climb stairs or ramps, which increases physical effort and the distance traveled. These additional hurdles often lead to poor utilization and encourage dangerous mid-block crossings, making well-designed at-grade solutions much more effective for safety.

42. (C) Bi-directional cycle track - Accommodates cyclist movement in both directions on one side of the road
Cycle track designs vary based on available space and safety requirements. A bi-directional track is a configuration where cyclists traveling in opposite directions share a single facility on one side of the street. This is different from shared lanes, which lack physical separation, or separated tracks, which use bollards or curbs to keep cyclists safe from traffic.

43. (A) P-4, Q-3, R-1, S-2
Non-motorized transport elements serve specialized roles to improve urban accessibility. Tactile paving provides essential guidance for

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9. (A) II, IV, III, I
The traditional transportation planning process follows a logical sequence beginning with trip generation to estimate total travel demand. This is followed by trip distribution to link origins and destinations. Planners then perform modal split to determine which transport types will be used. Finally, traffic assignment allocates these trips to specific routes within the network to evaluate potential congestion.

10. (C) The time interval between two successive transit vehicles moving in the same direction on a route
Headway is a critical operational metric in public transport planning that measures the temporal gap between consecutive vehicles on a specific route. Shorter headways indicate higher frequency and reduced waiting times for passengers at stops. Maintaining consistent headways is essential for preventing vehicle bunching and ensuring a reliable service level across the entire urban transit network throughout the day.

11. (D) Direct integration with air traffic control systems
Selecting locations for bus depots involves balancing operational efficiency with urban land use compatibility. Depots must be situated near major trip starting points to minimize unproductive travel, known as dead mileage. They also require significant land for maintenance and must avoid negatively impacting residential neighborhoods. However, integration with air traffic control is completely unrelated to ground-based bus fleets.

12. (A) It promotes dense, mixed-use development within walking distance of high-capacity transit stations.
Transit-oriented development is a strategic planning approach that focuses growth around high-quality mass transit hubs. By encouraging a mix of residential, commercial, and office spaces within a comfortable walking distance of stations, it reduces the need for private vehicle trips. This model fosters compact urban forms, enhances public transit ridership, and promotes more sustainable and active lifestyles for residents.

13. (B) To improve fleet utilization and network efficiency by eliminating redundant routes
Route rationalisation is a systematic review of public transport networks aimed at optimizing service delivery. It focuses on identifying and removing overlapping or underutilized routes that waste resources. By restructuring the network to minimize redundancy, transit authorities can improve overall fleet efficiency, reduce operating costs, and provide more direct, high-frequency services on the corridors with the highest demand.

14. (B) Statement II only
In public-private partnership models for transit, the allocation of revenue risk is a defining feature. Under net cost contracts, the private operator is responsible for fare collection and keeps the earnings, thus bearing the risk of low ridership. Conversely, in gross cost contracts, the authority retains the fare revenue and pays the operator based on distance traveled.

15. (C) I, II and IV only
Effective transit-oriented development guidelines focus on densifying corridors through increased floor area ratios and facilitating seamless transfers between different transport modes. Managing parking is also vital, often involving the reduction of minimum requirements to discourage car usage. While accessibility is prioritized, installing high boundary walls is discouraged as it creates physical barriers and deters a walkable environment.

16. (C) Implementing feeder systems such as e-rickshaws and public bicycle sharing
Ensuring the success of mass transit projects like the Bhopal Metro depends heavily on how easily passengers can travel between stations and their final destinations. This last-mile connectivity is best addressed through flexible feeder systems, including e-rickshaws, cycles, and micro-transit. These modes bridge the gap for short distances, making the metro a more viable option for daily commuting.

17. (A) Both A and R are true and R is the correct explanation of A.
Multi-modal integration creates a unified transport network where transferring between buses, trains, and other modes is effortless. By

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52. (D) Managing fluctuating parking demand from high footfall without using vast land
The multi-level car parking facility near the Mahakal Lok corridor in Ujjain is designed to handle the intense but variable demand from pilgrims and tourists. By storing vehicles vertically, the facility maximizes capacity on a small physical footprint. This approach is essential in historic and high-traffic areas where land is scarce and preserving the urban fabric is a priority.

53. (A) Both A and R are true and R is the correct explanation of A.
Urban planners are shifting their perspective to use parking as a powerful tool for managing travel demand. By controlling the price and availability of parking, cities can influence a commuter's choice of transport. When parking is limited or expensive, people are more likely to use public transit or walking, which helps reduce traffic volumes.

54. (C) Podium parking - Parking provided on the lower above-ground floors of a high-rise building
Parking solutions are often integrated into building designs to save land. Podium parking refers to utilizing the lower levels of a high-rise for vehicle storage, situated above the ground but below the main residential units. This is distinct from basement parking, which is below ground, or automated systems that use mechanical lifts to move cars without human drivers.

55. (A) P-2, Q-4, R-1, S-3
Various management tools help cities regulate parking and traffic flow effectively. Congestion pricing charges a fee for entering busy areas to reduce total vehicle numbers. Time-limited parking ensures that spaces in high-demand zones are available for more users. Dynamic pricing adjusts fees based on current demand, while residential permits ensure that local inhabitants have priority in their neighborhoods.

56. (D) Installing DC fast chargers is technically impossible within multi-level basement parking facilities.
Planning for electric vehicle infrastructure is becoming a standard part of urban parking design. While it requires careful consideration of the electrical load and clear signage to prevent misuse, it is technically feasible to install various types of chargers, including fast DC units, in multi-level basements. Many building codes now mandate that a portion of parking spots be EV-ready.

57. (A) II, I, III, IV
Establishing a successful public bicycle sharing system begins with assessing the actual demand and feasibility among potential users. Once the need is established, planners identify specific station locations to create a connected network. This is followed by the procurement of the necessary bikes and docks. Finally, the system is launched with a campaign to register users.

58. (C) A transit-adjacent facility for commuters to park and transfer to public modes
Park and Ride facilities are strategic hubs located near the outskirts of a city or at major transit stations. They allow commuters to drive their private cars to the station, park them securely, and then complete the rest of their journey using high-capacity public transport like buses or trains. This model reduces the number of vehicles entering the core.

59. (D) They provide the highest vertical density of vehicle storage per square meter.
Large surface parking lots are often viewed negatively because they use high-value land inefficiently. They contribute to heat islands, create unattractive voids in the streetscape, and force pedestrians to walk longer distances. Unlike multi-level structures, surface lots provide the lowest possible density of vehicle storage, making them a spatially poor choice for dense city centers.

60. (A) Levying a surcharge on vehicles entering high-traffic zones during peak periods
Congestion pricing is a market-based policy used to reduce traffic volumes in crowded centers. By charging drivers a fee to enter specific zones during times of high demand, the policy encourages people to travel at different times or switch to public transport. This helps maintain smoother traffic flow, reduces air pollution, and generates revenue for transit improvements.

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visually impaired pedestrians. Public bicycle sharing schemes are designed to solve the first and last-mile connectivity problem. Refuge islands offer a safe stopping point for people crossing wide roads, while skywalks provide elevated paths that connect transit hubs to buildings.

44. (A) They require higher capital investment per user than building urban expressways
Walking and cycling are extrêmement cost-effective modes of transport, requiring far less financial investment per user compared to the massive costs of building urban expressways. Beyond being affordable, these active modes produce zero emissions and use road space much more efficiently than private cars. Promoting them leads to significant public health benefits and reduces overall urban congestion.

45. (B) Creating a highly permeable grid network with frequent pedestrian and cycle-only cut-throughs
Designing for directness in non-motorized transport means ensuring that walkers and cyclists can take the shortest possible path to their destination. A highly permeable grid network, featuring paths that allow pedestrians and bikes to bypass long vehicle loops, achieves this goal. This strategy makes active travel more competitive with driving by saving users significant time and physical effort.

46. (B) The physical area required to park one standard car, including maneuvering space
Equivalent Car Space is a fundamental planning unit used to calculate the amount of land needed for parking facilities. It accounts not only for the static footprint of a standard vehicle but also for the additional room required to safely enter and exit the spot. This standard helps planners determine the total capacity of parking lots accurately.

47. (A) Mandating universally free and unlimited on-street parking in central districts
Modern parking management seeks to reduce congestion by treating parking as a limited resource. Strategies include dynamic pricing, strict time limits, and residential permits. However, providing free and unlimited parking in busy areas is counterproductive; it encourages excessive driving and leads to high levels of cruising traffic as people search for vacant spots, which further worsens congestion.

48. (C) On-street parking uses road space, while off-street parking is in dedicated lots
Parking facilities are categorized by their location relative to the roadway. On-street parking occurs along the curbs of active streets, directly consuming valuable road space that could be used for traffic flow. Off-street parking refers to spaces provided within dedicated surface lots, multi-level structures, or building basements, keeping stationary vehicles away from the main path of traffic.

49. (D) High-end retail malls and commercial complexes
In urban planning standards, different land uses have varying parking demands based on the expected number of visitors. High-end retail malls and commercial centers generate the highest parking requirements because they attract large numbers of private vehicle users over long periods. In contrast, low-income housing and public parks typically have much lower requirements as visitors rely on other modes.

50. (A) Statement I only
Smart parking systems use modern technology like IoT sensors to help drivers find available spots through mobile applications. By reducing the time spent circling for parking, these systems decrease traffic congestion and fuel consumption. However, they do not necessarily increase the physical land area used for parking; rather, they optimize the use of existing facilities through better data.

51. (C) I, II and III only
Contemporary parking reforms move away from guaranteeing supply toward managing demand. This includes removing minimum parking requirements near transit and setting maximum limits to discourage car ownership. These steps make housing more affordable and promote public transit. Subsidizing multi-level parking for free usage is generally avoided, as it encourages more private vehicle use and worsens congestion.

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70. (C) The time between arrival of consecutive vehicles on the same route at a stop
Route headway is an essential scheduling term that defines the frequency of service. It represents the number of minutes a passenger must wait between the arrival of one bus and the next. Reliable headway management ensures that transit services are predictable and convenient, which is a major factor in attracting riders in a competitive urban transport market.

71. (A) The seating capacity of international passenger aircraft
Planning a bus fleet involves analyzing passenger demand during peak hours and determining the appropriate vehicle capacity. Maintenance schedules and the need for reserve vehicles are also critical considerations to ensure continuous service. However, the seating capacity of aircraft is completely irrelevant to urban bus planning, as these two modes operate in entirely different contexts and physical scales.

72. (D) Minimizing walking distances and vertical changes for transferring passengers
Effective transit interchanges are designed to make switching between different modes as fast as possible. This is achieved by reducing the physical distance passengers must walk and minimizing the need to change levels via stairs or elevators. Good design also includes clear wayfinding and weather protection, all of which help to reduce the friction that often discourages users.

73. (C) Less than a standard passenger car
The passenger car unit is a metric used to convert different types of vehicles into a common denominator for traffic capacity analysis. Since bicycles are small and occupy very little road space compared to motorized vehicles, they are assigned a much lower PCU value than a standard car. This allows engineers to calculate the total load on mixed roads.

74. (A) Statement I only
Adaptive traffic control systems use real-time sensor data to adjust signal timings based on actual demand. This technology is capable of providing priority to specific vehicles, such as emergency services or buses, by extending green lights as they approach. These systems are much more efficient than traditional fixed-time signals, which cannot respond to changing conditions or prioritize critical traffic.

75. (A) I, II and IV only
Evaluating the quality of a street for pedestrians involves looking at the continuity of footpaths, the presence of shade, and the safety of crossings. These factors directly influence how comfortable people feel while walking. While vehicle events might be appropriate for racetracks, they are contradictory to pedestrian-friendly design, which seeks to minimize speeds and prioritize human-scale movement.

76. (A) Optimization of flow and automated enforcement via integrated command centres
In Jabalpur, the implementation of smart traffic systems under the Smart Cities Mission focuses on using technology to improve urban mobility. These systems use cameras and sensors connected to a central command center to monitor traffic flow in real-time and automate the enforcement of traffic rules. This data-driven approach helps reduce congestion and improves safety across the road network.

77. (A) Both A and R are true and R is the correct explanation of A.
Tactile paving is a mandatory feature in modern street design because it ensures that the pedestrian environment is inclusive for all users. These textured tiles provide physical cues that help visually impaired people stay on the correct path and warn them of upcoming hazards. By providing this guidance, planners create a safer and more independent experience for everyone.

78. (B) Pelican crossing - A pedestrian crossing with signals that can be operated by the pedestrians
Different pedestrian facilities provide varying levels of control and safety. A pelican crossing is a signalized crossing where users can press a button to request a green light. Zebra crossings provide priority without signals. Refuge islands are protected areas in the middle of wide streets, while skywalks are elevated bridges that completely separate pedestrians from the road.

79. (A) P-2, Q-3, R-4, S-1
Improving road safety involves several distinct strategies and tools. Traffic calming uses physical

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61. (B) Sub-arterial roads
The road hierarchy is designed to manage different levels of traffic volume and speed. Arterial roads handle major cross-city movements, while sub-arterial roads act as the next level, connecting different districts. Below these are collector streets, which gather traffic from local residential roads and funnel it toward the thoroughfares, ensuring a logical and organized flow of vehicles.

62. (A) Statement I only
Bus Rapid Transit Systems are designed to mimic the efficiency of rail travel using buses. By utilizing dedicated lanes and off-board fare collection, they achieve higher speeds and reliability than standard buses in mixed traffic. Because of these features, a fully functional BRTS significantly outperforms traditional city bus services in terms of both speed and hourly passenger capacity.

63. (A) I, II and III only
Funding for public transport comes from diverse sources to ensure financial sustainability. While farebox revenue from passengers is essential, many systems also rely on advertisement rights and value capture financing from nearby property developments. However, diverting funds from critical sectors like primary healthcare is not an appropriate financing mechanism for transit projects, as it compromises other essential services.

64. (C) Channelling funding and technical support for urban infrastructure projects
State-level urban development companies play a vital role in implementing major infrastructure initiatives. They act as intermediaries that secure funding and provide technical expertise to local municipal bodies for projects like water supply and transportation. These organizations are essential for managing large-scale urban improvements that require coordination beyond the capacity of individual cities or local departments.

65. (A) Both A and R are true and R is the correct explanation of A.
Permitting higher floor area ratios near transit stations is a core strategy of transit-oriented development. By allowing denser buildings in these locations, planners ensure that a large number of people live and work within walking distance of the station. This creates a guaranteed customer base for the transit system, which improves its financial performance and overall sustainability.

66. (C) Trip Distribution - Determines the destination of the generated trips
The four-step transport modeling process uses specific stages to analyze travel behavior. Trip generation calculates the total number of journeys, while trip distribution determines where those journeys are headed. Modal split then identifies whether those trips will be made by car, bus, or other modes. Finally, traffic assignment maps these trips onto the actual network to predict volumes.

67. (A) P-3, Q-1, R-4, S-2
Urban transport is categorized by its function and technology. Arterial roads carry high volumes across cities with limited access, while local streets provide direct entry to homes. In terms of transit, Bus Rapid Transit uses rubber-tired vehicles in dedicated median lanes. Light Rail Transit is a rail-based system that can operate in both segregated and mixed environments.

68. (D) Heavy commercial vehicles (HCVs) are universally permitted on all local residential streets at all hours to ensure fast delivery.
Managing urban freight is essential for a city's economy but requires regulation to protect residential quality of life. While consolidation centers and curbside zones improve efficiency, heavy commercial vehicles are typically restricted from local streets. These restrictions are necessary to prevent noise, pollution, and safety hazards in sensitive neighborhoods and narrow residential corridors where pedestrians are most active.

69. (A) The alignment connects dense satellite towns with integration at stations
The viability of a new rail line is highest when it connects high-density areas where there is a clear demand for travel. Integrating these stations with other transport modes and providing high-quality pedestrian access further ensures success. Conversely, running lines through unpopulated areas or alongside uncongested expressways without proper connectivity significantly reduces the likelihood of attracting riders.

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By establishing a special purpose vehicle, the government can manage the transit system professionally. This entity uses public-private partnerships where the private sector provides and operates the buses, while the public agency handles planning, ensuring a balance between commercial viability and essential public service delivery.

89. (A) Both A and R are true and R is the correct explanation of A.
Modern urban planners are increasingly moving away from mandatory minimum parking requirements in building codes. These older rules often forced developers to build more parking than needed, which increased housing costs and encouraged car ownership. By eliminating these minimums, cities can reduce development costs and promote a sustainable shift toward walking, cycling, and public transit usage.

90. (C) Gross Cost Contract (GCC) - The operator is paid a specified rate per kilometer and the authority retains the fare revenue.
In public transport contracts, the gross cost model involves the transit authority paying the private operator for the service provided, measured in kilometers. This ensures that the operator is not penalized for low ridership, while the authority keeps all fare revenue. This is different from a net cost contract where the operator takes the risk and keeps the fares.

91. (A) P-1, Q-2, R-3, S-4
Several cities in Madhya Pradesh have implemented unique transport solutions. Indore is famous for its iBus BRTS, while Bhopal is making progress on its new metro system. Ujjain has introduced ropeways to manage the large number of visitors to its historic temples. Meanwhile, Jabalpur has focused on improving major junctions and installing advanced traffic management systems for its mission.

92. (A) They operate on strict fixed schedules and stops like conventional buses
Intermediate public transport, such as e-rickshaws, is characterized by its flexibility. Unlike conventional buses, these vehicles do not follow rigid schedules or fixed stops; instead, they respond directly to passenger demand and can navigate narrow streets. This flexibility makes them essential for providing last-mile connectivity and reaching areas that are not well-served by larger, more formal transit systems.

93. (B) Adjacent to a major multi-modal transit interchange with retail amenities and MLCP
Integrated mobility planning seeks to co-locate different services to maximize convenience. Placing an electric vehicle charging hub at a major transit interchange allows users to charge their cars while they use other transport modes. This multi-functional approach makes the best use of land and supports the transition to sustainable energy by making charging accessible in high-activity urban areas.

94. (B) A lane marked to show that cyclists and motor vehicles share the road space
A shared lane, commonly indicated by sharrow pavement markings, is used on roads where there is not enough space for a dedicated cycle track. These markings remind drivers that cyclists are permitted to use the full lane and help guide cyclists to the safest position on the road. While they improve visibility, they do not provide physical safety.

95. (A) It provides a heavily flood-prone parking solution compared to deep basement parking.
Podium parking, located on lower above-ground levels, is often used to avoid the high costs of deep excavations. One of its primary benefits is that it is much less vulnerable to flooding than underground basement parking. However, it can still have negative impacts, such as creating unattractive street-level walls and taking up space meant for active uses.

96. (C) It allows payment for various transit modes using a single interoperable card
The National Common Mobility Card is a major step toward a seamless urban transport experience. It allows a single card to be used for metro, bus, and even parking payments across different cities. This interoperability eliminates the need for passengers to buy separate tickets for every mode, making public transport much more convenient and encouraging its frequent use.

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(C) Demographic mapping
(D) Shadow analysis

37. The Bhopal Smart City Integrated Command and Control Centre (ICCC) heavily utilizes data streams from distributed physical devices capable of sensing and communicating over the internet. This technology is known as:
(A) Blockchain
(B) Internet of Things (IoT)
(C) 3D Printing
(D) Cryptocurrency

38. Read the following statements regarding the methods of data acquisition for 3D urban modelling:
1. LiDAR uses laser pulses to measure exact distances and generate highly accurate 3D point clouds.
2. Drone-based photogrammetry captures overlapping 2D images to reconstruct 3D geometries.
3. LiDAR data is exclusively collected using hand-drawn physical surveys.
4. Drone photogrammetry is entirely independent of GPS positioning.

Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 2 and 3 only
(C) 1 and 4 only
(D) 1, 2, and 4 only

39. Identify the INCORRECT statement concerning the National Urban Digital Mission (NUDM):
(A) It aims to create shared digital infrastructure for urban India
(B) It works across the three pillars of people, process, and platform
(C) It seeks to standardize data and facilitate city interoperability
(D) It mandates the immediate physical demolition of all paper records

40. Match the Building Information Modelling (BIM) dimensions in List I with their corresponding definitions in List II:
List I: (BIM Dimensions)
P. 3D BIM
Q. 4D BIM
R. 5D BIM
S. 7D BIM

List II: (Definitions)
1. Integration of time/scheduling to model the construction sequence
2. Integration of cost estimation and budget tracking
3. Facility management and lifecycle asset tracking
4. Spatial geometric representation of the asset

(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-2, R-1, S-3
(D) P-2, Q-1, R-4, S-3

41. Read the following statements and select the correct answer from the options given below:
Assertion (A): Integrating Building Information Modelling (BIM) with Geographic Information Systems (GIS) provides a comprehensive view for urban planners.
Reason (R): BIM offers high-detail micro-level models of individual structures, while GIS provides the macro-level spatial and geographical context.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

42. Which of the following is NOT an open BIM standard utilized for data interoperability in infrastructure planning?
(A) Industry Foundation Classes (IFC)
(B) Proprietary closed-source code (.exe) files
(C) CityGML
(D) LandXML

43. Read the following statements regarding digital project delivery and choose the correct option:
Statement I: The implementation of Digital Project Delivery using BIM-GIS platforms can significantly ease the approval processes for major infrastructure projects.
Statement II: BIM adoption in the Indian context faces no challenges regarding software costs, skill gaps, or standardisation.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

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106. (C) The total land width legally dedicated for a road and its appurtenances
The right-of-way is the entire width of land that is legally reserved for a transportation facility. This includes the paved lanes for vehicles, but also the space for sidewalks, drainage, utility lines, and future widening projects. Knowing the exact ROW is essential for planners to ensure there is enough space for all the elements of a functional street.

107. (D) High-voltage open electrical transformers
Street furniture refers to the various objects placed along sidewalks to improve the comfort and convenience of pedestrians. Benches, waste bins, and proper lighting all make the walking environment more pleasant. However, high-voltage transformers are dangerous industrial equipment. When placed on a sidewalk, they create a safety hazard and a physical barrier that discourages people from walking in the city.

108. (A) To collect traffic from local streets and distribute it to arterial and sub-arterial roads
Collector streets serve a vital middle role in the urban road hierarchy. They gather vehicles from small local residential streets and funnel them onto the larger arterial roads that handle traffic across the city. By acting as this link, collector streets help organize the flow of traffic, ensuring that local neighborhoods stay quiet and safe while remaining well-connected.

109. (B) Fixed-time signals use pre-set cycles, while adaptive ones adjust in real-time
The main difference between these two signal types is how they handle timing. Fixed-time signals follow a set schedule regardless of how much traffic is present. Adaptive signals use sensors to count vehicles and automatically change the lights to clear congestion. This real-time adjustment makes adaptive signals much more efficient at reducing wait times and keeping traffic moving smoothly.

110. (A) Statement I only
Integrating walking and cycling with public transit is a key goal for sustainable cities. Providing secure bike parking at stations makes it much easier for people to use a cycle for the first part of their journey. In contrast, successful integration policies never advocate for banning pedestrians; instead, they focus on creating safe and attractive walking paths for all.

111. (A) I, II and III only
Planners use several methods to estimate how much parking a city needs. They look at zoning rules that set standards for different building types and conduct surveys to see how many people are currently parking in an area. They also use data on trip generation rates. Wind tunnel testing, while important for building safety, is not used for demand estimation.

112. (C) Construction of multi-modal transit hubs and smart roads
Funding for sustainable mobility focuses on projects that improve public transit and make it easier to travel without a private car. This includes building hubs where different modes of transport meet and creating smart roads that use technology. These investments help reduce pollution and congestion, making them the primary focus of modern urban development schemes for the future.

113. (A) Both A and R are true and R is the correct explanation of A.
For a Bus Rapid Transit system to work well, people must be able to reach the stations safely. Since these stations are often placed in the middle of a busy road, high-quality pedestrian crossings are absolutely essential. Without safe ways to cross the street, people will not be able to use the bus system, leading to low ridership.

114. (C) Automated MLCP - Uses mechanical lifts to park vehicles without drivers
Multi-level car parking facilities use different methods to store vehicles efficiently. An automated system uses mechanical lifts and platforms to move a car into a parking spot without the driver needing to be inside. This is different from conventional structures where drivers park their own cars. Stack parking is another mechanical method used to store vehicles vertically in layers.

115. (A) P-4, Q-2, R-1, S-3
Different national policies provide the framework for urban transport. The National Urban Transport Policy prioritizes people over vehicles. URDPFI guidelines provide the standards for road widths.

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The "Streets for People" framework focuses on pedestrianization. Finally, the Transit-Oriented Development policy encourages building denser, mixed-use neighborhoods around mass transit stations to promote a more sustainable city for the general population.

116. (D) Most modern urban mass transit systems globally operate solely on farebox revenue and generate high profits without any government subsidy.
Public transport provides many benefits to a city, like reducing traffic, but it is rarely profitable on its own. Most systems around the world require some form of government subsidy to cover their operating costs. While they try to increase revenue from fares and advertising, the primary goal is to provide a service rather than financial profit.

117. (A) Implementing raised crossings and tightening radii to slow turning vehicles
In areas with many shoppers and pedestrians, the most important design goal is to slow down motorized vehicles. Planners achieve this by using raised crossings that act like speed bumps and by making the corners of intersections sharper, which forces drivers to turn slowly. These changes make the street much safer and more comfortable for everyone using the road.

118. (C) The maximum passengers or vehicles passing a point per hour on a route
Transit capacity is a measure of how many people or vehicles a system can move past a specific point in a certain amount of time. It depends on several factors, including the size of the vehicles and how frequently they run. Understanding this capacity is essential for planners to ensure the system can handle the required number of users.

119. (A) It encourages the use of personal cars by providing free drive-through access on platforms.
Multi-modal integration is about making it easier for people to use a combination of public transit, walking, and cycling. It includes unified tickets, clear signs, and well-designed stations. However, encouraging personal car use by providing drive-through access on platforms would be dangerous and opposite to the goal of moving people through efficient and sustainable public transport systems.

120. (D) A space to unload large freight and consolidate goods for last-mile delivery
Logistics zones located on the edges of a city serve as a bridge between long-distance freight and local delivery. They provide a place where large trucks can unload their goods, which are then sorted onto smaller vehicles for delivery to shops inside the city. This prevents heavy trucks from congesting narrow city streets and improves the overall traffic flow.

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CHAPTER 10
Contemporary Infrastructure Planning Tools

1. Which of the following best describes the primary objective of the Mukhyamantri Gramin Awas Mission in Madhya Pradesh?
(A) To facilitate housing finance for rural households to construct pucca houses
(B) To provide free multistory apartments for urban slum dwellers
(C) To mandate compulsory green building certification for all rural panchayat buildings
(D) To acquire agricultural land for developing satellite townships around major MP cities

2. Read the following statements regarding the focus areas of AMRUT 2.0 and its implementation in Madhya Pradesh:
1. It aims to achieve universal coverage of water supply in all statutory towns.
2. It completely excludes sewage and septage management from its funding criteria.
3. It promotes the circular economy of water through the recycling of treated sewage.
4. It mandates the creation of purely greenfield cities without upgrading existing infrastructure.

Which of the above statement(s) is/are correct?
(A) 1 and 2 only
(B) 1 and 3 only
(C) 2 and 4 only
(D) 1, 3, and 4 only

3. Identify the INCORRECT pair regarding Madhya Pradesh cities and their inclusion in national urban missions:
(A) Indore – Active Smart Cities Mission participant
(B) Satna – Active Smart Cities Mission participant
(C) Ujjain – National HRIDAY scheme focal point
(D) Sagar – Smart Cities Mission implementation site

4. Which of the following statements correctly identifies the primary role of the Madhya Pradesh Urban Development Company (MPUDC)?
(A) To regulate rural agricultural land conversion and land use policy
(B) To manage maintenance for the Bhopal and Indore Metro rail systems
(C) To serve as the central banking institution for rural housing loans
(D) To execute externally aided and state-funded urban infrastructure projects

5. Read the following statements and select the correct answer from the options given below:
Assertion (A): The Jal Jeevan Mission (Urban) component relies heavily on surface water bodies and groundwater rejuvenation in Madhya Pradesh cities.
Reason (R): Achieving sustainable, functional tap connections requires holistic water security rather than merely laying distribution pipelines.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

6. Which of the following is NOT an identified Madhya Pradesh node under the Delhi-Mumbai Industrial Corridor (DMIC)?
(A) Pithampur-Dhar-Mhow Investment Region
(B) Ratlam-Nagda Investment Region
(C) Singrauli-Waidhan Coal Corridor
(D) Shajapur-Dewas Industrial Area

7. Read the following statements regarding the Pradhan Mantri Awas Yojana (Urban) status in Madhya Pradesh and choose the correct option:
Statement I: Madhya Pradesh has strictly limited PMAY(U) benefits to the 'In-situ Slum

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Redevelopment' vertical only.
Statement II: Beneficiary-Led Construction (BLC) and Affordable Housing in Partnership (AHP) are actively implemented verticals in MP under PMAY(U).
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

8. Match the items in List I with the corresponding descriptions in List II:
List I: (Urban Schemes/Missions)
P. Smart Cities Mission
Q. AMRUT 1.0
R. Heritage Rejuvenation (e.g., PRASAD)
S. Mukhyamantri Gramin Awas Mission
List II: (Core Focus Area/Component)
1. Heritage conservation and civic infrastructure revival
2. Rural housing finance and credit linkage
3. Area Based Development and Pan-City solutions
4. Basic civic amenities like water supply and sewerage for 1 lakh+ population cities
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-4, R-3, S-2

9. The local administration of Jabalpur decides to deploy an integrated traffic management system (ITMS) using intelligent cameras across the entire urban limit to monitor traffic violations. Under the National Smart Cities Mission framework, this initiative is best classified as:
(A) Area Based Development (ABD)
(B) A Pan-City Solution
(C) A Greenfield Development Model
(D) A Retrofitting Cluster Approach

10. Which is the most appropriate reason for shifting focus from AMRUT 1.0 to AMRUT 2.0 in the context of Madhya Pradesh?
(A) To discontinue water supply projects and focus exclusively on electric mobility
(B) To achieve water security in all statutory towns instead of only large cities
(C) To merge urban infrastructure grants directly into consolidated rural budgets
(D) To transfer civic infrastructure execution entirely to private real estate developers

11. Arrange the following national urban missions/ frameworks in their chronological order of initial launch:
1. Atal Mission for Rejuvenation and Urban Transformation (AMRUT 1.0)
2. Jawaharlal Nehru National Urban Renewal Mission (JNNURM)
3. AMRUT 2.0
4. National Urban Digital Mission (NUDM)
(A) 2, 1, 4, 3
(B) 2, 1, 3, 4
(C) 1, 2, 4, 3
(D) 2, 4, 1, 3

12. When applying the Heritage City Development (HRIDAY) scheme principles to Ujjain, a town planner must prioritize which of the following activities?
(A) Demolishing traditional ghats to build multi-lane elevated expressways
(B) Relocating all commercial activities to a greenfield site outside city limits
(C) Revitalizing heritage assets and improving nearby civic infrastructure
(D) Converting all religious monuments into heavy industrial and manufacturing zones

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13. The Area Based Development (ABD) strategy for the Bhopal Smart City involved relocating from the initially proposed Shivaji Nagar site to which of the following areas due to environmental and public protests?
(A) Bairagarh
(B) MP Nagar
(C) Kolar
(D) TT Nagar (North)

14. Read the following statements regarding the infrastructure components of Bus Rapid Transit Systems (BRTS):
1. A dedicated right-of-way lane is essential to ensure buses bypass mixed traffic congestion.
2. BRTS stations must feature off-board fare collection to minimize boarding delays.
3. Standard micro-vans are considered the ideal rolling stock for a high-capacity BRTS corridor.
4. Intelligent Transport Systems (ITS)

are integrated for real-time passenger information.

Which of the above statement(s) is/are correct?

(A) 1, 2, and 4 only
(B) 1 and 3 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

15. Which of the following is NOT an identified Madhya Pradesh operational lesson from the Indore BRTS (iBus)?

(A) It successfully demonstrated that a closed BRT system can sustain high daily ridership in a tier-2 Indian city.
(B) It proved that free-for-all mixed traffic inside the BRT corridor improves overall safety and efficiency.
(C) The physical segregation of the BRT lane from regular traffic helped maintain commercial speeds.
(D) Station design with level boarding significantly reduced dwell times for passengers.

16. As a town planner preparing a Service Level Improvement Plan (SLIP) under AMRUT for a Madhya Pradesh municipality, what is the first mandatory competency required?

(A) Sanctioning global tenders for international infrastructure contractors
(B) Designing 7D Building Information Models for residential complexes
(C) Issuing municipal bonds on the international financial market
(D) Assessing existing infrastructure gaps in water and sewerage

17. Read the following statements and select the correct answer from the options given below:

Assertion (A): The Smart Cities Mission mandates the creation of a Special Purpose Vehicle (SPV) for each selected city in Madhya Pradesh.

Reason (R): An SPV provides operational independence, swift decision-making, and the legal ability to raise alternative funds outside traditional municipal constraints.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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18. Identify the correct pair representing public transport systems in Madhya Pradesh:

(A) Bhopal – Operational Heavy Commuter Rail Network for urban commuters
(B) Indore – Cable car based mass transit system as the primary backbone
(C) UMTA – Agency for coordinated and integrated urban transport planning
(D) FAME II – Funding support for diesel-powered para-transit auto rickshaws

19. In the context of the National Smart Cities Mission, what does "Area Based Development" (ABD) primarily entail?

(A) Transforming areas via retrofitting, redevelopment, or greenfield sites
(B) Developing generic digital software applications for the entire district
(C) Mapping agricultural land use areas for various rural subsidies
(D) Abolishing municipal boundaries to merge multiple surrounding cities

20. Match the items in List I with the corresponding descriptions in List II:

List I: (Public Transport Concepts)

P. Rolling Stock
Q. Para-transit
R. Dedicated Lane
S. UMTA

List II: (Description)

1. Institutional framework for coordinating multi-modal urban transport
2. Physically segregated pathway for exclusive BRT use
3. Informal, flexible transport services like shared autos complementing formal transit
4. The physical buses, trams, or trains used in the transit system

(A) P-4, Q-3, R-2, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-3, Q-4, R-1, S-2

21. Read the following statements regarding the preparation of a Comprehensive Mobility Plan (CMP) for MP cities and choose the correct option:

97. (D) Moving people equitably and efficiently, rather than moving vehicles
National urban transport policies have shifted their focus from increasing road capacity for cars to prioritizing the movement of people. This means investing more in public transit and non-motorized infrastructure. By focusing on people rather than vehicles, cities can create more equitable systems that serve all citizens, reduce environmental impacts, and address the root causes of congestion.

98. (A) Statement I only
Ropeways are a specialized transport solution particularly effective in hilly terrain or where geographic barriers like rivers make bridges too expensive. They offer a direct path and require very little ground space compared to roads or railways. While they are great for specific locations, they do not have a larger footprint than an expressway because they fly over obstacles.

99. (B) I, III and IV only
Transit-oriented development is defined by high-density, mixed-use buildings located close to mass transit stations. These corridors prioritize pedestrians and cyclists over private cars, often by reducing the amount of parking available. Far from discouraging non-motorized transport, these areas are designed specifically to make walking and cycling the most convenient ways to reach the high-frequency transit station.

100. (D) A statutory body coordinating and integrating all urban transport modes
A Unified Metropolitan Transport Authority is a specialized government body created to oversee and coordinate various transport agencies in a large city. By bringing together the management of buses, metros, and roads, these authorities can ensure that schedules are integrated and ticketing is unified. This coordination is essential for creating a smooth and efficient urban mobility network.

101. (A) Both A and R are true and R is the correct explanation of A.
For cycle tracks to be safe and effective, they must be continuous and visually distinct from the main roadway. When a track is clearly marked with different colors or materials, it sends a strong signal to drivers to stay in their own lanes. This visibility, combined with a connected network, reduces the risk of accidents and improves cyclist safety.

102. (C) Origin-Destination (O-D) Survey - Determines travel patterns and desire lines of commuters
Origin-destination surveys are vital tools for transport planners to understand where people are starting their journeys and where they are going. This data helps identify desire lines, or the most direct paths people want to take, which is essential for planning new bus routes or rail lines. Other surveys measure how many vehicles are on a road.

103. (A) P-4, Q-2, R-1, S-3
Urban transport planning involves several key concepts. A Bus Rapid Transit System uses dedicated lanes for efficiency. Transit-Oriented Development focuses on building dense neighborhoods around stations. Non-Motorized Transport refers to walking and cycling, which are essential for sustainable cities. Finally, the Unified Metropolitan Transport Authority is the body responsible for coordinating all these elements into a single city-wide network.

104. (D) ITS completely eliminates the need for physical road infrastructure.
Intelligent transport systems use digital technology to make existing roads and transit networks safer and more efficient. Examples include electronic toll collection and real-time arrival signs. While these technologies significantly improve how we use our infrastructure, they do not replace the physical need for roads, bridges, and stations. Instead, ITS acts as a layer that enhances performance.

105. (A) III, II, IV, I
Different transport modes have varying capacities to move people. Small vehicles like shared rickshaws carry the fewest passengers per hour. Standard city buses in mixed traffic offer more capacity, but can be slowed by congestion. Bus Rapid Transit systems can move even more people efficiently. Heavy metro rail sits at the top, capable of moving tens of thousands.

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Assertion (A): Madhya Pradesh municipalities increasingly require credit rating assessments.
Reason (R): A favorable credit rating is a mandatory prerequisite for urban local bodies to issue municipal bonds to fund infrastructure projects.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

30. Which of the following is NOT a standard parameter in the condition assessment of a municipal road network?
(A) Pothole density and surface rutting
(B) Pavement Condition Index (PCI)
(C) Soil bearing capacity for high-rise buildings
(D) International Roughness Index (IRI)

31. Consider the following statement: "Indore became one of the first cities in Madhya Pradesh to successfully issue municipal bonds." This mechanism is primarily an example of:
(A) Central government direct tax allocation grants
(B) Alternative finance for urban infrastructure projects
(C) International monetary aid from the World Bank Group
(D) Charitable public donations and private endowments

32. Match the items in List I with the corresponding applications in List II:
List I: (Infrastructure Assessment Tools)
P. Infrastructure Gap Analysis
Q. Rapid Visual Screening
R. Vulnerability Mapping
S. Service Level Improvement Plan (SLIP)
List II: (Primary Application Area)
1. AMRUT framework for baseline water/ sewerage planning
2. Quick seismic assessment of built structures
3. Identifying spatial risk to climate hazards like urban flooding
4. Quantifying the deficit between existing amenities and normative standards
(A) P-4, Q-2, R-3, S-1
(B) P-1, Q-2, R-4, S-3
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-1, R-4, S-2

33. Which term refers to the real-time, dynamic virtual representation of a city's physical assets, processes, and systems that relies heavily on IoT sensors?
(A) City Digital Twin
(B) Master Plan 2031
(C) Regional Zonal Plan
(D) Statutory Development Plan

34. Read the following statements regarding the CityGML standard and choose the correct option:
Statement I: The CityGML standard is an open data model strictly used for 2D paper mapping of urban utilities.
Statement II: CityGML facilitates the storage and exchange of 3D semantic city models across various applications.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

35. Arrange the Levels of Detail (LOD) in 3D city modelling according to CityGML standards from the lowest conceptual detail to the highest architectural detail:
1. LOD 3 (Detailed architectural models with roof structures and windows)
2. LOD 1 (Simple block models without roof structures)
3. LOD 4 (Includes interior structures like rooms and stairs)
4. LOD 2 (Models with differentiated roof structures and textured facades)
(A) 2, 4, 1, 3
(B) 1, 2, 3, 4
(C) 2, 1, 4, 3
(D) 4, 3, 2, 1

36. An Assistant Town Planner is tasked with analyzing the potential impact of a proposed high-rise building on the natural daylight received by adjacent historical structures in Gwalior. Which 3D GIS application is most appropriate for this task?
(A) Wind flow simulation
(B) Flood inundation modelling

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Statement I: A CMP focuses exclusively on constructing new flyovers and widening roads for private cars.
Statement II: A CMP emphasizes integrating land use with transport planning, promoting non-motorized transport, and prioritizing public transit systems.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

22. Which of the following is NOT a recognized last-mile connectivity innovation suitable for urban public transport systems in MP?
(A) Public Bicycle Sharing (PBS) systems
(B) E-rickshaw feeder services at Metro stations
(C) Promoting heavy multi-axle freight trucks in residential zones
(D) Pedestrian-friendly walkways connecting bus stops to commercial hubs

23. Under the FAME II scheme, city bus services in several Madhya Pradesh towns are transitioning towards which specific type of rolling stock?
(A) CNG-powered standard buses
(B) Hydrogen Fuel Cell trams
(C) Bio-diesel articulated buses
(D) Battery Electric Buses (BEVs)

24. A town planning official must implement the National Transit Oriented Development (TOD) policy in Indore. Which of the following strategies best applies this policy?
(A) Increasing FAR and promoting mixed land use in the transit corridor
(B) Encouraging low-density, single-family housing near the metro stations
(C) Banning all commercial development projects along the BRTS corridor
(D) Shifting all transit stations away from the central business district

25. The methodology for conducting an infrastructure gap analysis in a municipality primarily requires comparing which of the following?
(A) Comparing the city's digital twin model against international cities
(B) Comparing existing capacity against normative service level benchmarks
(C) Comparing municipal corporation budgets against total state budgets
(D) Comparing historical population records against national census data

26. Read the following statements regarding Life Cycle Cost Analysis (LCCA) of urban infrastructure:
1. LCCA considers only the initial capital expenditure of construction.
2. LCCA factors in operation, maintenance, and end-of-life disposal costs.
3. It helps municipalities choose between project alternatives by evaluating long-term financial viability.
4. LCCA completely ignores the inflation rate and discount rates over the asset's life.

Which of the above statement(s) is/are correct?
(A) 1 and 4 only
(B) 2 and 3 only
(C) 1, 2, and 3 only
(D) 2, 3, and 4 only

27. Identify the INCORRECT pair regarding infrastructure assessment techniques:
(A) Asset Management System – Decommissioning all existing water treatment plants
(B) Rapid Visual Screening (RVS) – Preliminary assessment of structural safety and seismic vulnerability of buildings
(C) Vulnerability Mapping – Identifying zones susceptible to natural hazards like floods
(D) Condition Assessment – Evaluating the physical state of roads and sewerage networks

28. Which of the following best describes the core function of an Asset Management System for urban infrastructure?
(A) Deleting old manual records of land ownership
(B) Speculating on real estate prices for municipal land
(C) Maintaining and operating physical assets cost-effectively
(D) Privatizing public utilities without regulatory oversight

29. Read the following statements and select the correct answer from the options given below:

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44. Match the transport mode in List I with its typical capacity and role in List II:
List I: (Transport Mode)
P. Metro Rail
Q. Light Rail Transit (LRT)
R. E-rickshaw
S. Cable Car
List II: (Capacity and Role)
1. Last-mile connectivity feeder service
2. High-capacity mass rapid transit on dedicated grade-separated tracks
3. Medium-capacity rail transit often operating in mixed or semi-exclusive right-of-way
4. Niche transit suited for hilly terrains or crossing natural barriers
(A) P-2, Q-3, R-1, S-4
(B) P-3, Q-2, R-4, S-1
(C) P-2, Q-1, R-3, S-4
(D) P-4, Q-3, R-1, S-2

45. An infrastructure firm is planning the alignment of the Indore Metro. Why is integrating BIM and GIS specifically critical during the early alignment design phase?
(A) It eliminates the need for any on-site labor during construction
(B) It replaces the legal requirement to compensate various land owners
(C) It acts as a financial tool to directly issue municipal bonds
(D) It allows for clash detection between models and mapped utilities

46. Which of the following is the most significant challenge of adopting BIM-GIS linkage for smart city infrastructure management in Indian municipalities?
(A) The absolute lack of computer hardware and processing power
(B) Government regulations explicitly banning the use of 3D models
(C) Lack of interoperability and a shortage of trained professionals
(D) The inability of GIS software to display geographic coordinates

47. Arrange the typical project lifecycle stages where BIM-GIS linkage is applied in chronological order:
1. Operations and Maintenance (Facility Management)
2. Conceptual Planning and Site Selection
3. Detailed Design and Engineering
4. Construction and Execution
(A) 2, 3, 4, 1
(B) 1, 2, 3, 4
(C) 3, 2, 4, 1
(D) 2, 4, 3, 1

48. What is the primary purpose of utilizing GIS-based monitoring for Pradhan Mantri Gram Sadak Yojana (PMGSY) road projects in MP?
(A) To issue traffic fines to rural transport vehicles
(B) To redesign the architecture of roadside dwellings
(C) To calculate property tax for all rural households
(D) To track progress, verify alignment, and geo-tag assets

49. Under the AMRUT 2.0 scheme, what is the specific focus regarding the preservation of urban water bodies?
(A) Rejuvenating water bodies to create sustainable urban water sources
(B) Filling water bodies to create additional residential building plots
(C) Leasing them to private fisheries without allowing any public access
(D) Diverting municipal solid waste into them to save land and space

50. Read the following statements regarding the implementation of the Smart Cities Mission in Madhya Pradesh:
1. Seven cities in MP were selected under the national Smart Cities Mission.
2. The mission focuses exclusively on creating new cities on barren lands (greenfield).
3. Integrated Command and Control Centres (ICCC) have been established in all MP smart cities.
4. SPVs formed under the mission are not allowed to receive any private funding.
Which of the above statement(s) is/are correct?
(A) 1 and 3 only
(B) 2 and 4 only
(C) 1, 2, and 3 only
(D) 1, 3, and 4 only

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1. Evaluating physical deterioration, such as pavement distress on municipal roads
2. Quantifying the shortfall between current infrastructure capacity and future demand
3. Calculating the total cost of ownership including capital, maintenance, and disposal over the asset's life
4. Identifying assets exposed to risks like flooding or seismic activity

(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-4, Q-1, R-2, S-3

109. You are tasked with preparing an urban infrastructure investment plan for a water supply augmentation project in Sagar. What should be the primary financial objective?
(A) Maximizing borrowing regardless of repayment capacity
(B) Defunding solid waste programs to divert water funds
(C) Relying entirely on ad-hoc emergency government grants
(D) Ensuring cost recovery and accessing blended finance

110. Which is the most significant advantage of utilizing a Digital Twin for managing the Smart City infrastructure of Ujjain during the Simhastha Kumbh Mela?
(A) Eliminating police presence by predicting local crimes
(B) Providing a platform for pilgrims to perform virtual rituals
(C) Allowing real-time crowd monitoring and resource allocation
(D) Automatically lowering the city temperature during summer

111. Read the following statements regarding municipal bonds as an alternative finance mechanism:
1. They are debt securities issued by local governments to finance public capital projects like water supply or sewerage.
2. An investment-grade credit rating is typically required to attract institutional investors.
3. The funds raised through municipal bonds can be legally diverted to pay the monthly salaries of municipal staff.
4. Escrow accounts are often created to ring-fence project revenues for bond repayment.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1, 2, and 3 only
(C) 2 and 4 only
(D) 1, 3, and 4 only

112. Identify the correct statement regarding drone-based photogrammetry for urban modelling:
(A) It produces only 2D schematic diagrams for models
(B) It maps underground sewerage networks using sonar
(C) It is strictly banned for civilian planning in India
(D) It captures overlapping images to generate 3D models

113. Read the following statements and select the correct answer from the options given below:
Assertion (A): Implementing a Common Mobility Card (NCMC) across the Bhopal Metro and BCLL city buses is a vital step towards integrated transport.
Reason (R): A unified ticketing system reduces passenger friction, encourages multi-modal transit usage, and improves fare collection efficiency.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

114. Which of the following does NOT fall under the purview of interoperability challenges in a Smart City's digital ecosystem?
(A) Utilizing disparate proprietary software that cannot exchange data
(B) Lack of common data standards like CityGML or IFC
(C) The physical geographic distance between two different smart cities
(D) Incompatibility between legacy municipal databases and new IoT platforms

115. Read the following statements regarding the PMAY(U) and choose the correct option:

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(B) Ensuring data sharing across different software platforms
(C) Encrypting building plans so that planners cannot view them
(D) Eliminating the need for any geographic coordinates in models

59. Arrange the typical procedural steps involved in preparing a Comprehensive Mobility Plan (CMP) for a city in chronological order:
1. Development of alternative mobility scenarios
2. Existing situation analysis and data collection
3. Preparation of transport investment program and phasing
4. Vision formulation and goal setting

(A) 2, 4, 1, 3
(B) 4, 2, 1, 3
(C) 2, 1, 4, 3
(D) 1, 2, 3, 4

60. When planning urban infrastructure investments in Madhya Pradesh, a planner notices a recurring shortfall in internal revenue generation of the local body. Which alternative finance mechanism is specifically designed to leverage the capital markets for funding large-scale public utilities?
(A) Increasing the penalty for illegal parking
(B) Relying solely on Corporate Social Responsibility (CSR) funds
(C) Issuance of Municipal Bonds
(D) Discontinuing the operation of all city public transport

61. Which characteristic distinctly differentiates a Digital Twin from a standard 3D static CAD model of a city?
(A) The digital twin provides a three-dimensional view of buildings
(B) The digital twin cannot be integrated with any GIS mapping tool
(C) The digital twin requires rendering on paper before official use
(D) The digital twin uses real-time IoT data to reflect asset states

62. Read the following statements regarding the integration of BIM (Building Information Modelling) and GIS:
1. GIS excels at macro-level spatial analysis, while BIM excels at micro-level structural and asset data.
2. Translating IFC files directly into GIS databases is a common workflow for this integration.
3. The integration is completely useless for underground utility mapping.
4. Mandating BIM in government infrastructure projects facilitates an easier transition to BIM-GIS integrated digital twins.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1 and 3 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

63. Identify the INCORRECT statement regarding the application of 3D GIS and simulation models in urban planning:
(A) They can be used to model flood scenarios to identify vulnerable low-lying zones.
(B) They accurately predict the outcome of local municipal elections.
(C) They are utilized to conduct shadow analysis to ensure new developments do not obstruct sunlight to existing solar panels.
(D) They assist in analyzing wind flow patterns around proposed high-rise structures.

64. Which of the following is a correct pair regarding infrastructure terminology?
(A) LOD 4 – Simple 2D footprint of a building without height
(B) Para-transit – High-speed, high-capacity underground rail systems
(C) NUDM – National Urban Drainage Model
(D) LiDAR – Remote sensing method using light in the form of a pulsed laser to measure ranges

65. Read the following statements and select the correct answer from the options given below:
Assertion (A): Integrating BIM into highway project planning, like the DMIC road networks, enhances project delivery efficiency.
Reason (R): BIM allows for clash detection, automated quantity take-offs, and 4D scheduling, which reduces cost overruns and construction delays.

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events quickly
(D) Checking the visual acuity of drivers operating city buses

95. Read the following statements and select the correct answer from the options given below:
Assertion (A): The implementation of a Unified Metropolitan Transport Authority (UMTA) has faced challenges in Madhya Pradesh cities.
Reason (R): Transport planning and operation currently fall under the fragmented jurisdictions of multiple agencies, such as municipal corporations, RTOs, development authorities, and traffic police, making coordinated governance difficult.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

96. Which element is NOT typically considered part of evaluating the physical condition of a municipal water supply network?
(A) Frequency of pipeline bursts and leaks
(B) Internal corrosion and tuberculation in pipes
(C) Pressure levels maintained at the consumer end
(D) Aesthetic colour of the pumping station exterior walls

97. Read the following statements regarding the National Smart Cities Mission and choose the correct option:
Statement I: The National Smart Cities Mission heavily emphasizes the retrofitting of existing city areas rather than exclusively relying on Greenfield development.
Statement II: Retrofitting involves planning an entirely new city on previously vacant agricultural land outside the municipal boundaries.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

98. Match the BIM dimension in List I with its corresponding application in List II:
List I: (BIM Dimension)
P. 4D BIM
Q. 5D BIM
R. 6D BIM
S. 7D BIM
List II: (Application)
1. Analyzing the energy efficiency and sustainability of a municipal building
2. Managing the operation, maintenance, and facility lifecycle of a metro station
3. Extracting real-time cost estimations and material quantities for a flyover
4. Simulating the construction schedule of a BRTS corridor
(A) P-4, Q-3, R-1, S-2
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-1, R-3, S-2
(D) P-1, Q-2, R-4, S-3

99. An Assistant Town Planner is tasked with reducing dwell times at BRTS stations in Bhopal. Which design feature should be prioritized?
(A) Level boarding platforms aligned with the bus floor height and off-board fare collection
(B) On-board ticketing by a single conductor inside the bus
(C) Stepped boarding requiring passengers to climb stairs into the bus
(D) Narrowing the bus doors to ensure single-file entry

100. Which of the following constitutes the most appropriate methodology for preparing a Comprehensive Mobility Plan (CMP)?
(A) Relying on historical traffic counts without projections
(B) Planning for private car infrastructure like flyovers
(C) Bypassing public consultation for metro rail alignments
(D) Integrating multi-modal strategies with master plans

101. Arrange the hierarchical levels of spatial data abstraction for an infrastructure project in chronological order of detail, from regional scale to component scale:
1. 3D BIM Model (Structural details and components)
2. 2D Regional GIS Map (Land use and topography)

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(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

73. Identify the INCORRECT statement regarding the application of the National Transit Oriented Development (TOD) policy:
(A) TOD promotes high-density, mixed-use development within walking distance of transit stations.
(B) TOD mandates the complete prohibition of commercial activities near mass transit nodes to reduce congestion.
(C) TOD focuses on creating pedestrian-friendly environments and discouraging private vehicle usage.
(D) Value capture finance (VCF) mechanisms are often integrated into TOD planning.

74. Which of the following pairs is correctly matched regarding infrastructure assessment?
(A) Infrastructure Gap Analysis – Identifying the difference between current service delivery and targeted normative benchmarks
(B) Rapid Visual Screening (RVS) – Analyzing the financial returns of a real estate project
(C) Service Level Improvement Plan (SLIP) – Designing the aesthetic facade of government buildings
(D) Asset Management System – Eliminating the need for routine maintenance

75. Read the following statements and select the correct answer from the options given below:
Assertion (A): Underground utility mapping using BIM-GIS integration is essential for smart city retrofitting projects.
Reason (R): It helps avoid accidental damage to existing water, gas, and optic fibre networks during excavation, reducing project delays and costs.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

76. Which of the following factors does NOT typically contribute to the vulnerability mapping of urban infrastructure?
(A) The physical condition and age of the asset
(B) The geographical elevation and proximity to floodplains
(C) The brand of the surveying equipment used
(D) The exposure to seismic zones

77. Read the following statements regarding the 6D dimension of BIM and choose the correct option:
Statement I: The 6D dimension of Building Information Modelling (BIM) is primarily concerned with project scheduling and time management.
Statement II: The 6D dimension in BIM focuses on environmental and sustainability analysis, such as energy consumption.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

78. Match the items in List I with the corresponding operational mechanisms in List II:
List I: (Urban Planning Frameworks/Missions)
P. National Urban Digital Mission (NUDM)
Q. AMRUT 2.0
R. Smart Cities Mission
S. Jal Jeevan Mission (Urban)
List II: (Key Operational Mechanism)
1. City Water Balance Plans and Pey Jal Survekshan
2. National Urban Innovation Stack (NUIS) for interoperable digital public goods
3. Universal functional tap connections based on source sustainability
4. Special Purpose Vehicles (SPVs) for executing ABD projects
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-3, R-4, S-1

79. A town planner is tasked with regulating informal public transport like auto-rickshaws and shared tempos in Jabalpur. What term best describes this type of transit service?
(A) Rapid Rail Transit
(B) Para-transit
(C) Heavy Metro
(D) Personal Rapid Transit (PRT)

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(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

66. Which of the following is NOT typically considered when performing a Life Cycle Cost Analysis (LCCA) for a new municipal water treatment plant?
(A) Initial engineering and construction costs for the new facility
(B) Maintenance and energy consumption costs over a 30-year period
(C) Sunk costs of an unrelated highway project from ten years ago
(D) End-of-life decommissioning and plant disposal costs at site

67. Read the following statements regarding the MPUDC and choose the correct option:
Statement I: The MPUDC (Madhya Pradesh Urban Development Company) acts as the State Level Nodal Agency (SLNA) for the implementation of the AMRUT mission in the state.
Statement II: MPUDC was established primarily to regulate the licensing of private taxi operators in Bhopal.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

68. Match the Madhya Pradesh city in List I with its notable feature in List II:
List I: (City)
P. Indore
Q. Bhopal
R. Gwalior
S. Ujjain
List II: (Notable Feature)
1. Heritage rejuvenation and PRASAD implementation
2. High-ridership iBus BRTS operational on AB Road
3. Metro project featuring an under-construction priority corridor from AIIMS to Subhash Nagar
4. Exploring light rail/cable car and e-buses for narrow heritage streets
(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-2, Q-4, R-3, S-1
(D) P-1, Q-2, R-3, S-4

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69. While evaluating municipal finance options for funding a major sewerage network upgrade under AMRUT 2.0, an MP town planner suggests accessing alternative finance mechanisms. Which of the following best fits this description?
(A) Utilizing the MP state government's consolidated fund explicitly
(B) Issuing long-term municipal green bonds
(C) Relying solely on local property tax collection for the year
(D) Requesting direct public donations via local newspapers

70. Which of the following best defines the 'IFC' standard in the context of BIM-GIS integration?
(A) Indian Freight Corridor
(B) Integrated Finance Corporation
(C) Industry Foundation Classes, an open standard for sharing BIM data
(D) Intelligent Fare Collection

71. In the context of 3D city modelling, what level of detail (LOD) is required if a city planner wants to visualize architectural features like balconies, distinct roof shapes, and facade textures of heritage buildings in Ujjain?
(A) LOD 0
(B) LOD 1
(C) CAD 2D Plan
(D) LOD 3

72. Read the following statements regarding drone-based photogrammetry for urban modelling:
1. It provides high-resolution aerial imagery that can be converted into 3D models.
2. It requires significant ground control points (GCPs) for high spatial accuracy.
3. It cannot be used in urban areas due to interference with ground traffic.
4. It is often more cost-effective for smaller urban areas compared to manned aircraft LiDAR flights.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1 and 3 only

Statement II: A SLIP strictly focuses on assessing the digital connectivity and Wi-Fi infrastructure of a city.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

88. Match the Madhya Pradesh state entity/scheme in List I with its core mandate in List II:
List I: (Entity/Scheme)
P. MPUDC
Q. BCLL
R. PMAY (Urban)
S. iBus
List II: (Core Mandate)
1. Indore's successful Bus Rapid Transit System
2. Execution of urban water supply and sewerage projects funded by global banks
3. Management of urban public bus transport in Bhopal
4. Implementation of 'Affordable Housing in Partnership' and 'ISSR' projects
(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-4, R-3, S-1

89. A city planner utilizes drone-based photogrammetry and LiDAR data to model the exact topography of the Narmada river basin adjacent to a proposed urban expansion in Jabalpur. What is the most appropriate practical application of this model?
(A) Forecasting long-term regional demographic shifts
(B) Simulating flood zones and designing drainage alignments
(C) Calculating the historical value of local festivals
(D) Designing interior furniture layouts for government offices

90. Which of the following best explains why "clash detection" is a critical feature of utilizing BIM in infrastructure planning?
(A) Helping traffic police detect vehicular collisions on roads
(B) Resolving conflicts between building systems before construction
(C) Identifying political conflicts during municipal council meetings
(D) Detecting fraudulent transactions in municipal property taxes

91. Which of the following combinations of Madhya Pradesh cities forms part of the industrial nodes identified under the Delhi-Mumbai Industrial Corridor (DMIC)?
(A) Pithampur-Dhar-Mhow and Ratlam-Nagda
(B) Rewa-Satna and Singrauli-Waidhan
(C) Khajuraho-Panna and Tikamgarh-Niwari
(D) Betul-Harda and Khandwa-Burhanpur

92. Read the following statements regarding the role of an Integrated Command and Control Centre (ICCC) in smart cities:
1. It functions as the "brain" of the city, aggregating data from various civic services.
2. It plays a crucial role in real-time crisis management and emergency response.
3. It has no capability to integrate with traffic management or solid waste tracking systems.
4. ICCCs heavily depend on video analytics and IoT sensor data streams.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1 and 3 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

93. Identify the INCORRECT pair regarding BIM standards and digital tools:
(A) IFC – Open standard for exchanging 3D building models
(B) LandXML – Open standard for exchanging civil engineering and infrastructure data
(C) Digital Twin – Real-time replica linking physical assets to digital models via IoT
(D) CityGML – Closed, proprietary format strictly used for 2D AutoCAD drafting

94. What is the primary purpose of conducting a Rapid Visual Screening (RVS) in a densely populated urban area?
(A) Rapidly estimating property tax defaults in urban areas
(B) Digitally scanning facades for heritage tagging projects
(C) Identifying buildings vulnerable to seismic

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51. Identify the INCORRECT pair regarding public transport systems in MP:
(A) Gwalior – Operating an extensive underground Metro network
(B) Indore BRTS – Local transit system also known as iBus
(C) Bhopal Metro – Transport project referred to as Bhoj Metro
(D) BCLL – Agency managing urban bus services in Bhopal city

52. Which of the following correctly describes a 'Pan-City Solution' under the Smart Cities Mission framework?
(A) A localized intervention restricted to a small plot
(B) Expanding city limits by annexing surrounding villages
(C) Constructing a physical boundary wall around the city
(D) Applying smart technology to city-wide infrastructure

53. Read the following statements and select the correct answer from the options given below:
Assertion (A): The Unified Metropolitan Transport Authority (UMTA) is recommended for major cities in Madhya Pradesh like Indore and Bhopal.
Reason (R): UMTA helps eliminate institutional fragmentation by providing a single platform for planning and coordinating various transport modes like BRTS, Metro, and city buses.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

54. Which of the following is NOT typically a component of a dedicated Bus Rapid Transit System (BRTS) corridor?
(A) Physically segregated bus lanes
(B) Specialized rolling stock with multi-door access
(C) Intelligent Transport Systems for priority signaling
(D) Unrestricted entry for all private two-wheelers and cars

55. Read the following statements regarding the FAME II scheme and choose the correct option:
Statement I: The primary objective of the FAME II scheme is to encourage faster adoption of electric and hybrid vehicles by way of offering upfront incentives.
Statement II: Madhya Pradesh has refused to adopt electric buses under the FAME II scheme due to high electricity costs.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

56. Match the urban scheme in MP in List I with its implementing/nodal context in List II:
List I: (Urban Scheme)
P. AMRUT
Q. PMAY (Urban)
R. Smart Cities Mission
S. Jal Jeevan Mission (Urban)
List II: (Implementing/Nodal Context)
1. SPV (Special Purpose Vehicle) at city level
2. Functional tap connection to every urban household
3. Service Level Improvement Plans (SLIP) for water and sewerage
4. Affordable Housing in Partnership and BLC verticals
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-1, R-4, S-2

57. While assessing the condition of underground sewerage infrastructure in Ujjain, a planner wants to identify internal pipe blockages and structural cracks without excavation. Which assessment technique is most suitable?
(A) Rapid Visual Screening (RVS)
(B) Closed-Circuit Television (CCTV) inspection
(C) Floor Area Ratio (FAR) calculation
(D) Life Cycle Cost Analysis (LCCA)

58. What is the most significant advantage of incorporating open standard formats like IFC (Industry Foundation Classes) into municipal digital project delivery platforms?
(A) Restricting software usage to a single proprietary vendor

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3. 3D CityGML Model LOD 2 (Building footprints and roof structures)
4. Digital Twin (Real-time BIM integrated with sensor data)

(A) 2, 3, 1, 4
(B) 3, 2, 4, 1
(C) 1, 2, 3, 4
(D) 2, 1, 3, 4

102. When designing a scenario model to simulate urban wind flows around proposed high-rises in the Indore central business district, what is the mandatory base data required?
(A) 2D demographic maps
(B) The financial statements of the municipal corporation
(C) 3D city models (at least LOD 2 or LOD 3) and historical meteorological data
(D) Historical property tax records of the central business district

103. Which statement about the status of Metro Rail projects in Madhya Pradesh is INCORRECT?
(A) Both Indore and Bhopal have active metro rail projects under construction
(B) The MP Metro Rail Corporation Limited is the nodal implementing agency
(C) The metro systems in MP are designed to integrate with existing transport
(D) Both cities have fully operationalized their entire Phase-1 networks

104. Read the following statements regarding the integration of open BIM standards with GIS:
1. It bridges the gap between the micro-level design domain (BIM) and the macro-level spatial domain (GIS).
2. It allows urban planners to visualize how a proposed building's underground utilities connect to the city's main GIS-mapped grid.
3. Open standards hinder data sharing and lock municipalities into expensive, single-vendor proprietary software.
4. It enables efficient digital project delivery and eases the process of municipal building approvals.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1 and 3 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

105. Read the following statements and select the correct answer from the options given below:
Assertion (A): The adoption of Building Information Modelling (BIM) for infrastructure projects in India currently faces challenges related to skill gaps and initial software costs.
Reason (R): Mandating BIM in public procurement without adequate capacity building of local contractors and municipal engineers leads to implementation bottlenecks.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

106. Which of the following is a negative consequence or limitation of heavily relying exclusively on Light Rail Transit (LRT) over BRTS in tier-2 MP cities?
(A) LRT generally offers lower passenger comfort compared to buses
(B) LRT entails higher capital costs and longer construction times
(C) LRT has a significantly larger carbon footprint than diesel buses
(D) LRT cannot operate efficiently on standard electricity systems

107. Read the following statements regarding the AMRUT scheme and choose the correct option:
Statement I: The AMRUT scheme focuses on providing basic civic amenities strictly to rural villages with a population of less than 10,000.
Statement II: AMRUT targets capacity building, reform implementation, and infrastructure development in designated urban areas.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

108. Match the infrastructure asset management concept in List I with its description in List II:
List I: (Concept)
P. Life Cycle Costing
Q. Condition Assessment
R. Vulnerability Mapping
S. Gap Analysis
List II: (Description)

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80. What is the best strategy to improve last-mile connectivity from a newly constructed BRTS station in Bhopal?
(A) Building a multi-level car parking facility 5 kilometres away
(B) Widening the main arterial road for heavy freight movement
(C) Removing pedestrian footpaths to speed up motorized traffic
(D) Implementing a Public Bicycle Sharing system and e-rickshaws

81. Which of the following statements about the Mukhyamantri Gramin Awas Mission in MP is INCORRECT?
(A) It provides urban apartments to rural migrants unconditionally
(B) It aims to assist rural families in constructing durable houses
(C) It functions on a credit-linked subsidy model with institutions
(D) It supplements national housing schemes in rural village domains

82. Read the following statements regarding the role of IoT sensors and urban data streams in a smart city:
1. IoT sensors can monitor real-time air quality indices across various urban nodes.
2. Urban data streams from smart water meters can help detect leakage in the distribution network.
3. The data collected is aggregated in the Integrated Command and Control Centre (ICCC).
4. IoT infrastructure eliminates the need for any physical maintenance of urban utilities.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2 and 4 only
(D) 1, 2, 3, and 4

83. Arrange the evolution of spatial and infrastructural data modelling tools in chronological order from the most basic to the most integrated:
1. 3D GIS Modelling
2. Digital Twins (Real-time BIM-GIS integration with IoT)
3. 2D Computer-Aided Design (CAD) / Basic GIS
4. Building Information Modelling (BIM) for individual assets

(A) 3, 1, 4, 2
(B) 3, 4, 1, 2
(C) 1, 3, 2, 4
(D) 4, 3, 1, 2

84. What is the primary focus of the Heritage City Development and Augmentation Yojana (HRIDAY) implemented in cities like Ujjain?
(A) Relocating heritage structures to build technology parks
(B) Completely privatising all national heritage monuments
(C) Establishing heavy industries within the heritage precinct
(D) Developing civic infrastructure around various heritage sites

85. Read the following statements and select the correct answer from the options given below:
Assertion (A): In infrastructure gap analysis, the existing service level for water supply is compared against the benchmark of 135 Litres Per Capita per Day (LPCD).
Reason (R): 135 LPCD is the standard normative benchmark set by the CPHEEO for urban water supply in Indian cities provided with a sewerage system.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

86. Which of the following is NOT a level of detail defined under the CityGML standard for 3D city modelling?
(A) LOD 1
(B) LOD 2
(C) LOD 8
(D) LOD 4

87. Read the following statements regarding the SLIP and choose the correct option:
Statement I: The preparation of a Service Level Improvement Plan (SLIP) is a bottom-up approach mandated under the AMRUT mission, originating at the Urban Local Body (ULB) level.

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Statement I: Pradhan Mantri Awas Yojana (Urban) heavily relies on GIS mapping to geotag the construction progress of beneficiary-led houses in MP.
Statement II: Geotagging ensures transparency by verifying the physical existence and construction stages of the house before releasing subsidy instalments.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

116. Match the component of public transport infrastructure in List I with its primary purpose in List II:
List I: (Component)
P. Depot and Maintenance Yard
Q. Intelligent Transport System (ITS)
R. Pedestrian Grade Separator (FOB/Subway)
S. Last-Mile Feeder Service
List II: (Primary Purpose)
1. Ensuring safe passenger access across heavy traffic corridors to transit stations
2. Connecting commuters from transit hubs to their final origin/destination
3. Real-time vehicle tracking, passenger information, and signal priority
4. Overnight parking, fueling, and mechanical servicing of rolling stock
(A) P-4, Q-3, R-1, S-2
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-3, R-4, S-1

117. Which term defines the capability of a 3D city model to include non-geometric attributes such as building usage, construction year, and ownership details, alongside its physical geometry?
(A) Creating basic wireframe rendering of models
(B) Adding non-geometric semantic data to assets
(C) Generating orthographic projections of sites
(D) Converting vector data into rasterized images

118. When a town planner integrates BIM with GIS to map a proposed underground utility corridor, the main outcome they aim to achieve is:
(A) Enhancing the exterior aesthetic appeal of utility pipes
(B) Calculating the exact number of daily project laborers
(C) Providing a 3D clash-detection environment for designs
(D) Eliminating the need for environmental impact assessments

119. What is the fundamental difference between LOD 2 and LOD 3 in the CityGML standard for 3D city models?
(A) LOD 2 uses flat roofs while LOD 3 includes detailed interior rooms
(B) LOD 2 represents a city map in 2D while LOD 3 makes it entirely 3D
(C) There is no difference as they are both interchangeable technical terms
(D) LOD 2 features roof shapes while LOD 3 adds detailed exterior windows

120. In the context of Madhya Pradesh's future integrated spatial-infrastructure platforms, what role will the National Urban Digital Mission (NUDM) play?
(A) Streamlining municipal e-governance and spatial planning
(B) Constructing concrete roads across all MP municipalities
(C) Providing direct housing loans to the urban poor population
(D) Replacing the transport department in issuing licenses

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33. (A) City Digital Twin
A City Digital Twin is an advanced virtual model that is dynamically linked to its physical counterpart through real-time data from IoT sensors. Unlike static maps, it reflects the current state of urban systems, such as traffic flow or utility performance. This technology allows planners to simulate various scenarios and monitor infrastructure performance, leading to more responsive and data-driven management of city operations.

34. (D) Statement I is false but Statement II is true.
CityGML is an open data model and XML-based format designed specifically for the storage and exchange of 3D city models. It goes beyond simple geometry by including semantic information about urban objects and their relationships. This standard facilitates the interoperability of spatial data across different software applications, supporting complex tasks such as urban planning, disaster management, and environmental simulations in a 3D environment.

35. (A) 2, 4, 1, 3
The Levels of Detail in 3D city modeling provide a hierarchical framework for representing urban structures. LOD 1 consists of simple block models, while LOD 2 adds roof shapes. LOD 3 provides detailed architectural features like windows and balconies on the exterior. Finally, LOD 4 is the most comprehensive, including interior structures such as rooms and stairs, allowing for detailed building and facility management.

36. (D) Shadow analysis
Shadow analysis using 3D GIS is a critical tool for town planners to evaluate how new developments impact the surrounding environment. By simulating the position of the sun throughout the year, planners can visualize the shadows cast by a proposed high-rise. This ensures that historical structures or neighboring buildings receive adequate natural light, preserving the aesthetic and functional quality of the urban space.

37. (B) Internet of Things (IoT)
The Internet of Things involves a network of physical objects embedded with sensors and software that allow them to collect and exchange data over the internet. In a smart city context, IoT devices provide real-time information on everything from waste bin levels to traffic conditions. This data is central to the operation of Integrated Command and Control Centres, enabling more efficient municipal services.

38. (A) 1 and 2 only
Modern 3D urban modeling relies on advanced remote sensing technologies. LiDAR uses laser pulses to create highly accurate point clouds of the terrain and built environment. Drone-based photogrammetry reconstructs 3D geometry from overlapping aerial images. These methods are much more efficient than manual surveys and depend heavily on GPS for spatial accuracy, providing the foundational data needed for digital twins and smart planning.

39. (D) It mandates the immediate physical demolition of all paper records.
The National Urban Digital Mission aims to modernize urban governance through a shared digital infrastructure and standardized data formats. While it encourages the digitization of records to improve efficiency and transparency, it does not mandate the immediate destruction of physical paper archives. Instead, it focuses on building capacity and platforms that allow for better data interoperability between various city-level systems and departments.

40. (A) P-4, Q-1, R-2, S-3
Building Information Modelling extends beyond 3D geometry to include multiple dimensions of project data. The 4D dimension incorporates time and scheduling for construction sequencing, while 5D adds cost estimation and budget tracking. The 7D dimension is focused on long-term facility management and asset lifecycle tracking. This multi-dimensional approach provides a comprehensive framework for planning, executing, and maintaining infrastructure assets throughout their lifespan.

41. (A) Both A and R are true and R is the correct explanation of A.
Integrating BIM and GIS allows planners to combine high-detail structural information with broad geographical context. BIM provides the micro-level data needed for building design and components, while GIS offers the macro-level analysis of how these structures interact with the surrounding urban environment and terrain. This

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basic services like water and sewerage for larger cities. Heritage schemes emphasize conservation and civic revival around historical assets. Rural housing missions provide credit linkages and finance, ensuring a structured approach to development across urban and rural domains.

9. (B) A Pan-City Solution
Initiatives that utilize technology to improve infrastructure and services across the entire municipal boundary are classified as pan-city solutions under the Smart Cities Mission. An integrated traffic management system uses digital sensors and cameras to benefit all residents by enhancing safety and efficiency. This differs from area-based development, which focuses on specific geographic clusters, by providing uniform smart interventions city-wide.

10. (B) To achieve water security in all statutory towns instead of only large cities
The transition to AMRUT 2.0 represents an expansion in scope to ensure that all statutory towns, regardless of size, achieve functional water security. While the first phase focused on major cities, the second phase prioritizes universal coverage and the rejuvenation of water bodies. This ensures equitable distribution of resources and promotes sustainable water management practices across the entire diverse urban landscape.

11. (A) 2, 1, 4, 3
Urban development frameworks in India have evolved through successive phases of modernization and digital integration. JNNURM initiated large-scale urban reforms, followed by AMRUT 1.0 which focused on basic infrastructure. The National Urban Digital Mission was later launched to create a unified digital stack, while AMRUT 2.0 represents the most recent major expansion targeting universal water security and sustainable urban rejuvenation.

12. (C) Revitalizing heritage assets and improving nearby civic infrastructure
Applying heritage city development principles requires a sensitive approach that balances conservation with modern needs. Planners must focus on preserving the cultural and architectural integrity of historical sites while enhancing the surrounding civic amenities like walkways, lighting, and sanitation. This integrated strategy improves the experience for residents and visitors, ensuring that economic development is rooted in the city's unique cultural identity.

13. (D) TT Nagar (North)
The initial proposal for the Bhopal Smart City Area Based Development faced significant opposition due to environmental concerns regarding tree felling in Shivaji Nagar. Consequently, the administration relocated the project site to TT Nagar (North). This area was selected for redevelopment to transform it into a modern, smart administrative and commercial hub, demonstrating how public feedback and environmental considerations influence urban planning.

14. (A) 1, 2, and 4 only
Efficient Bus Rapid Transit Systems rely on dedicated lanes to ensure reliability and speed by bypassing general traffic congestion. Off-board fare collection is crucial as it significantly reduces boarding times at stations. Furthermore, integrating intelligent transport systems provides real-time information to passengers. High-capacity articulated buses are preferred over small vans to accommodate larger commuter volumes, ensuring the system functions as a mass transit backbone.

15. (B) It proved that free-for-all mixed traffic inside the BRT corridor improves overall safety and efficiency.
The Indore BRTS, known as iBus, demonstrated that a dedicated and segregated corridor is essential for maintaining high operational speeds and passenger safety. Allowing mixed traffic into the bus lanes would cause congestion and increase the risk of accidents, undermining the system's core objectives. The success of the project relied on strict lane enforcement and specialized station designs that facilitate rapid boarding.

16. (D) Assessing existing infrastructure gaps in water and sewerage
Preparing a Service Level Improvement Plan requires a thorough understanding of the current state of municipal services compared to standard benchmarks. Planners must first identify where infrastructure is lacking to prioritize investments

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ANSWERS

1. (A) To facilitate housing finance for rural households to construct pucca houses
This initiative focuses on improving rural living standards by providing necessary financial assistance and credit linkages to families for constructing permanent houses. It targets those excluded from national schemes, ensuring they can access formal banking channels. By facilitating affordable loans, the mission empowers rural residents to build sustainable, high-quality residences, thereby enhancing overall rural infrastructure.

2. (B) 1 and 3 only
AMRUT 2.0 targets universal water coverage in statutory towns and promotes sustainable water management through a circular economy approach. This involves recycling treated sewage for non-potable uses to reduce freshwater demand. Unlike its predecessor, it emphasizes water security and rejuvenates local water bodies to ensure long-term functionality of tap connections, reflecting a holistic approach to urban water infrastructure.

3. (C) Ujjain – National HRIDAY scheme focal point
While several cities in Madhya Pradesh participate in national urban missions, the National HRIDAY scheme specifically selected twelve cities across India for heritage-based urban development. Ujjain was not among the original designated cities for HRIDAY, although it receives significant funding through the PRASAD scheme and the Smart Cities Mission. Other pairings correctly reflect their active status under various frameworks.

4. (D) To execute externally aided and state-funded urban infrastructure projects
The Madhya Pradesh Urban Development Company serves as a specialized agency responsible for implementing large-scale urban infrastructure initiatives. It manages projects funded by international agencies like the World Bank and Asian Development Bank, alongside state-supported schemes. Its core functions involve planning, procurement, and execution of essential services such as water supply, sewerage systems, and urban transport across various municipalities.

5. (A) Both A and R are true and R is the correct explanation of A.
The mission recognizes that providing functional tap connections requires a reliable and sustainable water source. Rejuvenating local water bodies and managing groundwater are critical to achieving long-term water security in urban centers. By focusing on the entire water cycle, the scheme ensures that infrastructure investments lead to actual service delivery, addressing resource scarcity while expanding distribution networks for residents.

6. (C) Singrauli-Waidhan Coal Corridor
The Delhi-Mumbai Industrial Corridor includes specific investment regions in Madhya Pradesh designed to boost manufacturing and logistics. Nodes like Pithampur, Ratlam, and Shajapur are integrated into this high-impact economic framework to leverage their strategic locations. However, the Singrauli-Waidhan area is primarily recognized as a major coal and power-producing hub rather than a designated industrial node within the DMIC investment framework.

7. (D) Statement I is false but Statement II is true.
The Pradhan Mantri Awas Yojana (Urban) in Madhya Pradesh utilizes multiple implementation strategies to address housing needs. While in-situ redevelopment is one aspect, the state actively promotes Beneficiary-Led Construction and Affordable Housing in Partnership. These verticals allow diverse groups to access subsidies for building new homes or improving existing ones. The comprehensive approach ensures that various urban housing segments receive targeted support.

8. (A) P-3, Q-4, R-1, S-2
Urban missions are categorized by specific objectives to improve city infrastructure. The Smart Cities Mission focuses on area-based and pan-city digital solutions, while AMRUT targets

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25. (B) Comparing existing capacity against normative service level benchmarks
Infrastructure gap analysis is a systematic process of identifying the deficit between the current level of service and standardized targets. In India, these targets are often defined by national bodies like the CPHEEO. By quantifying this difference, municipalities can determine the specific investments required to meet the needs of their growing populations, ensuring that infrastructure development is based on objective data.

26. (B) 2 and 3 only
Life Cycle Cost Analysis is a comprehensive financial tool that evaluates the total costs associated with an asset over its entire functional life. It goes beyond initial construction expenses to include ongoing operations, periodic maintenance, and eventual disposal. This approach helps decision-makers select the most cost-effective project alternatives by considering long-term economic sustainability rather than just the lowest immediate capital outlay.

27. (A) Asset Management System – Decommissioning all existing water treatment plants
Asset Management Systems are designed to optimize the performance and lifespan of infrastructure through proactive maintenance and cost-effective operation. They do not involve the wholesale decommissioning of functioning facilities without justification. Other techniques, such as Rapid Visual Screening for seismic safety and vulnerability mapping for flood risks, are correctly identified as essential tools for evaluating the structural and environmental status of urban assets.

28. (C) Maintaining and operating physical assets cost-effectively
The primary objective of an Asset Management System is to ensure that public infrastructure is maintained and operated in a manner that maximizes its value and service life. This involves tracking asset condition, scheduling regular maintenance, and making informed decisions about repairs or replacements. By using a structured approach, municipalities can reduce long-term costs and improve the reliability of essential services.

29. (A) Both A and R are true and R is the correct explanation of A.
Municipalities seeking to raise funds through the capital markets must undergo credit rating assessments to demonstrate their financial health to investors. A strong credit rating reduces the cost of borrowing and is often a mandatory requirement for issuing municipal bonds. This mechanism allows local bodies in Madhya Pradesh to secure alternative financing for large-scale infrastructure projects while promoting greater fiscal transparency.

30. (C) Soil bearing capacity for high-rise buildings
Condition assessments of municipal roads focus on surface and structural integrity parameters such as the Pavement Condition Index and the International Roughness Index. These metrics help identify potholes, rutting, and surface roughness. While soil bearing capacity is critical for the structural design of buildings, it is not a standard parameter used to evaluate the ongoing maintenance state of an existing road network.

31. (B) Alternative finance for urban infrastructure projects
Municipal bonds represent a shift away from traditional government grants toward market-based financing. By issuing these debt instruments, cities like Indore can tap into private capital to fund essential infrastructure like water treatment plants. This alternative finance mechanism empowers local bodies to become more self-reliant and encourages them to improve their financial management practices to maintain high creditworthiness for future borrowings.

32. (A) P-4, Q-2, R-3, S-1
Different assessment tools serve specific roles in the planning and maintenance of urban infrastructure. Gap analysis quantifies deficits in amenities, while Rapid Visual Screening provides a quick check for seismic structural safety. Vulnerability mapping identifies areas at risk from natural hazards like floods. Finally, Service Level Improvement Plans are used within the AMRUT framework to establish baselines and targets for water and sewerage.

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66. (C) Sunk costs of an unrelated highway project from ten years ago.
Life Cycle Cost Analysis focuses exclusively on the costs associated with the specific asset under evaluation throughout its functional life. This includes initial construction, ongoing operations, maintenance, and eventual decommissioning. Sunk costs, which are past expenditures that cannot be recovered, are irrelevant to future-oriented financial decisions. Excluding these unrelated costs ensures that the LCCA provides an accurate picture of the long-term financial viability of the new facility.

67. (C) Statement I is true but Statement II is false.
The Madhya Pradesh Urban Development Company acts as the primary state-level nodal agency for major urban infrastructure missions like AMRUT. It is responsible for coordinating the planning and execution of projects across multiple municipalities. While it manages large-scale investments in water and sewerage, its mandate does not include the local regulation or licensing of private taxi operators, which is typically handled by the state transport departments and RTOs.

68. (A) P-2, Q-3, R-4, S-1
Major cities in Madhya Pradesh are implementing diverse transit and heritage solutions. Indore is known for its high-ridership iBus system, while Bhopal is making progress on its metro rail corridor. Gwalior is focusing on niche transit options like cable cars for its historical areas, and Ujjain is a key site for heritage rejuvenation through the PRASAD scheme. These projects reflect a tailored approach to urban development based on unique city characteristics.

69. (B) Issuing long-term municipal green bonds
Municipal green bonds are a form of alternative finance specifically used to fund environmentally sustainable projects like sewerage and water treatment systems. By accessing the capital markets through these bonds, a town planner can secure long-term investment that is not solely dependent on annual municipal budgets or state grants. This approach encourages fiscal responsibility and allows cities to undertake large-scale infrastructure improvements that benefit public health and the environment.

70. (C) Industry Foundation Classes, an open standard for sharing BIM data
Industry Foundation Classes is a standardized, platform-neutral data format used in Building Information Modelling. It allows different software applications to exchange architectural and engineering data without losing information. In the context of BIM-GIS integration, IFC is essential for moving detailed 3D building models into larger spatial databases, enabling planners to analyze individual structures within their wider urban and geographical context to improve overall infrastructure management.

71. (D) LOD 3
To visualize detailed architectural features such as balconies, specific roof shapes, and facade textures, a Level of Detail 3 model is required. While LOD 1 and LOD 2 provide basic footprints and roof shapes respectively, LOD 3 adds the necessary external details for high-fidelity visualization. This level is particularly useful for heritage conservation and urban design, where the visual characteristics of a building's exterior are of primary importance to planners.

72. (A) 1, 2, and 4 only
Drone-based photogrammetry is a powerful tool for urban modeling, offering high-resolution imagery that can be processed into 3D models. It is often more flexible and cost-effective than manned aircraft for smaller areas. To achieve high spatial accuracy, the process requires the use of ground control points. While it must follow safety regulations, it is widely used in urban areas for planning and monitoring, providing detailed data for municipal projects.

73. (B) TOD mandates the complete prohibition of commercial activities near mass transit nodes to reduce congestion.
Transit Oriented Development actually encourages mixed-use development, which includes commercial activities, near transit stations. The goal is to create vibrant hubs where people can live, work, and shop without needing a private vehicle. By integrating diverse land uses, TOD maximizes the utility of public transport and promotes pedestrian-friendly environments. Prohibiting commercial activity would counteract these objectives by forcing

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synergy is essential for effective site selection, utility planning, and large-scale infrastructure management.

42. (B) Proprietary closed-source code (.exe) files
Open BIM standards are crucial for ensuring that data can be shared across different software platforms used by various project stakeholders. Industry Foundation Classes and CityGML are widely recognized open formats for structural and city-level data. In contrast, proprietary closed-source files restrict data access to specific software vendors, hindering interoperability and creating barriers to efficient collaboration in complex and multi-stakeholder urban infrastructure projects.

43. (C) Statement I is true but Statement II is false.
While digital project delivery using BIM-GIS platforms can streamline the approval process by providing clear, data-rich models, its adoption faces several hurdles in India. Challenges include significant software costs, a lack of standardized protocols, and a shortage of trained professionals capable of using these advanced tools. Overcoming these barriers is essential for realizing the full potential of digital transformation in the construction sector.

44. (A) P-2, Q-3, R-1, S-4
Different transport modes are selected based on their capacity and the specific needs of the urban environment. Metro rail provides high-capacity, grade-separated transit for major corridors. Light rail offers medium capacity often in mixed-use paths. E-rickshaws play a vital role in last-mile connectivity, while cable cars are specialized solutions for difficult terrains. Matching the right mode to the demand is key to efficient mobility.

45. (D) It allows for clash detection between models and mapped utilities
Integrating BIM and GIS during the early design phase of a metro project is critical for identifying potential conflicts with existing infrastructure. By overlaying detailed 3D models of the metro alignment onto GIS maps of underground utilities like water and gas lines, engineers can detect “clashes” before construction begins. This proactive approach prevents costly delays and accidental damage to vital city services during execution.

46. (C) Lack of interoperability and a shortage of trained professionals
The primary obstacle to implementing integrated BIM-GIS systems in Indian municipalities is the technical difficulty of sharing data between different platforms. Furthermore, there is a significant lack of skilled personnel who can manage and interpret complex 3D spatial data. Addressing these capacity gaps through training and the adoption of open standards is necessary to enable effective digital twins and smart city infrastructure management.

47. (A) 2, 3, 4, 1
The application of BIM-GIS linkage follows the natural progression of an infrastructure project. It begins with conceptual planning and site selection, moving into detailed engineering design where models are refined. During construction, the technology helps track progress and manage logistics. Finally, the integrated data is used for the operations and maintenance phase, providing a comprehensive digital record for facility management throughout the life of the asset.

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48. (D) To track progress, verify alignment, and geo-tag assets
GIS-based monitoring in the Pradhan Mantri Gram Sadak Yojana is essential for ensuring transparency and quality in rural road construction. By using satellite imagery and geo-tagging, officials can remotely verify that roads are being built along the correct alignments and track physical progress in real-time. This digital oversight helps in the effective management of vast rural networks and ensures that assets are accurately recorded.

49. (A) Rejuvenating water bodies to create sustainable urban water sources
AMRUT 2.0 emphasizes the rejuvenation of urban water bodies as a strategy for achieving sustainable water security. By cleaning and restoring lakes and ponds, cities can improve groundwater recharge and create alternative water sources. This ecological approach not only enhances the local environment but also helps urban areas become more resilient to water scarcity, moving beyond a simple reliance on distant water supply projects.

50. (A) 1 and 3 only
Seven cities in Madhya Pradesh were selected to participate in the national Smart Cities Mission, focusing on both area-based development and pan-city digital solutions. A key achievement has been the establishment of Integrated Command and Control Centres in these cities to manage civic services. The mission encourages a mix of retrofitting and greenfield projects and allows SPVs to leverage diverse funding sources, including private investment.

51. (A) Gwalior – Operating an extensive underground Metro network
While Indore and Bhopal are currently developing metro rail systems, Gwalior does not operate an underground metro network. Most transit projects in Gwalior focus on improving bus services and exploring light rail or cable car options suited for its historical layout. Other agencies like BCLL in Bhopal and systems like the iBus in Indore are correctly identified as active components of the state's urban transport landscape.

52. (D) Applying smart technology to city-wide infrastructure
A pan-city solution refers to the use of smart technology and data to improve the delivery of municipal services across the entire urban area. Examples include city-wide integrated traffic management, smart waste collection tracking, or unified digital payment platforms. This approach ensures that the benefits of the Smart Cities Mission reach all residents, complementing the more localized interventions found in area-based development projects.

53. (A) Both A and R are true and R is the correct explanation of A.
The creation of a Unified Metropolitan Transport Authority is essential for overcoming the fragmented nature of urban transit governance. By providing a single platform for coordination, UMTA ensures that different modes of transport, such as metro and bus systems, work together seamlessly. This integrated approach is critical for major cities like Indore and Bhopal to develop efficient, multi-modal transport networks serving the metropolitan region.

54. (D) Unrestricted entry for all private two-wheelers and cars
The effectiveness of a Bus Rapid Transit System depends on its ability to bypass general traffic congestion. This is achieved through physically segregated lanes and intelligent transport systems that give priority to buses. Allowing unrestricted access to private vehicles would lead to delays and safety issues, defeating the purpose of the system. Specialized rolling stock and level boarding are other key components that ensure high-capacity service.

55. (C) Statement I is true but Statement II is false.
The FAME II scheme provides financial incentives to accelerate the adoption of electric vehicles across India. Madhya Pradesh has actively participated in this initiative by introducing electric buses in several major cities. These vehicles help reduce urban pollution and noise. Contrary to the idea of rejection, the state is leveraging these central subsidies to modernize its public transport fleet and promote sustainable mobility solutions for urban populations.

56. (A) P-3, Q-4, R-1, S-2
National urban missions in Madhya Pradesh are implemented through specific frameworks and nodal agencies. AMRUT uses Service Level Improvement Plans to target water and sewerage. PMAY (Urban) focuses on affordable housing through verticals like BLC and AHP. The Smart Cities Mission operates via city-level Special Purpose Vehicles. Finally, the Jal Jeevan Mission targets universal functional tap connections, ensuring a comprehensive approach to urban infrastructure and housing development.

57. (B) Closed-Circuit Television (CCTV) inspection
CCTV inspection is a non-destructive method used to evaluate the internal condition of underground pipes. By navigating a camera through the sewerage network, planners can identify blockages, cracks, and structural failures without the need for expensive and disruptive excavation. This technique is essential for maintaining aging urban infrastructure in historical cities like Ujjain, allowing for targeted repairs and efficient long-term asset management.

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58. (B) Ensuring data sharing across different software platforms
The Industry Foundation Classes standard is a neutral, open format that allows for the exchange of Building Information Modelling data between different software programs. This interoperability is vital for large-scale municipal projects involving multiple stakeholders using various tools. By adopting IFC, municipalities can ensure that their digital records remain accessible and usable over time, avoiding vendor lock-in and facilitating better collaboration throughout the project lifecycle.

59. (A) 2, 4, 1, 3
Preparing a Comprehensive Mobility Plan follows a structured process that begins with analyzing the existing situation and collecting traffic data. Planners then formulate a long-term vision and goals for urban mobility. This is followed by the development of various alternative transit scenarios. Finally, a phased investment program is created to implement the selected strategies, ensuring that transport development is aligned with the city's future growth and sustainability needs.

60. (C) Issuance of Municipal Bonds
Municipal bonds are a specialized financial instrument that allows local bodies to borrow large sums from the capital markets. This mechanism is particularly useful for funding major infrastructure projects like sewerage or water systems that require significant upfront investment. By issuing bonds, cities can leverage their future revenue streams to fund current development, reducing their dependence on immediate government grants and promoting greater fiscal autonomy.

61. (D) The digital twin uses real-time IoT data to reflect asset states
While a standard 3D CAD model provides a static geometric representation of an object, a Digital Twin is a living model that is constantly updated with real-time data. Through the use of IoT sensors, it can reflect current conditions such as traffic levels, temperature, or equipment performance. This dynamic connection allows urban managers to monitor physical assets in real-time and predict future maintenance needs more accurately.

62. (A) 1, 2, and 4 only
The integration of BIM and GIS combines micro-level architectural detail with macro-level spatial context, which is highly effective for mapping complex systems like underground utilities. A common workflow involves translating IFC files into GIS databases. Mandating these technologies in public projects accelerates the transition toward city-level digital twins. This holistic view is essential for modern urban planning, allowing for better coordination between individual buildings and city infrastructure.

63. (B) They accurately predict the outcome of local municipal elections.
3D GIS and simulation models are powerful tools for analyzing physical and environmental phenomena in urban areas. They are used for flood modeling, shadow analysis, and studying wind flow patterns around buildings. However, these tools are designed for spatial and engineering applications and do not have the capability to predict political events or election outcomes, which are driven by complex and unpredictable social and behavioral factors.

64. (D) LiDAR – Remote sensing method using light in the form of a pulsed laser to measure ranges
LiDAR is a vital technology for modern urban modeling, providing high-precision data about the earth's surface and built structures. It works by emitting laser pulses and measuring the time they take to return, creating detailed 3D point clouds. Other terms like LOD 4 refer to high-detail architectural models, while para-transit describes informal transport services, and NUDM stands for the National Urban Digital Mission, focusing on digital governance.

65. (A) Both A and R are true and R is the correct explanation of A.
Implementing BIM in large-scale road projects, such as those within the DMIC, significantly improves efficiency. BIM enables advanced features like 4D scheduling, which integrates the construction timeline, and clash detection to resolve design conflicts early. By automating quantity take-offs and providing a detailed digital model, the technology helps minimize cost overruns and delays, ensuring that critical infrastructure is delivered more reliably and within the specified budget.

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effectively. This data-driven assessment forms the baseline for all subsequent engineering designs and financial planning under the AMRUT framework, ensuring that projects address the most critical community needs.

17. (A) Both A and R are true and R is the correct explanation of A.
The creation of a Special Purpose Vehicle is a core requirement of the Smart Cities Mission to ensure efficient project delivery. By operating as a distinct legal entity, the SPV bypasses traditional municipal delays and possesses the flexibility to raise funds from private markets. This institutional structure allows for professional management and streamlined implementation of complex urban infrastructure projects within specified timelines.

18. (C) UMTA – Agency for coordinated and integrated urban transport planning
Establishing a Unified Metropolitan Transport Authority is a key recommendation for major urban areas to manage multi-modal transit systems effectively. Unlike fragmented agencies, UMTA coordinates between metro, buses, and para-transit to ensure a seamless commuter experience. While projects like the Bhopal Metro are underway, they are not yet fully operational, and schemes like FAME focus on promoting electric-powered vehicles.

19. (A) Transforming areas via retrofitting, redevelopment, or greenfield sites
Area Based Development is a strategic component of the Smart Cities Mission aimed at transforming specific geographic clusters within a city. This can be achieved through retrofitting existing built-up areas, redeveloping dilapidated structures, or creating entirely new greenfield developments. The goal is to create replicable models of smart urban living that enhance the quality of life and economic potential within a localized area.

20. (A) P-4, Q-3, R-2, S-1
Public transport relies on various physical and institutional components to function effectively. Rolling stock includes the actual vehicles like buses or trains used for transit. Para-transit provides flexible, informal services that support formal networks. Dedicated lanes are essential for segregating mass transit from general traffic to ensure speed. Finally, UMTA provides the necessary governance framework for coordinating these diverse elements across a metropolitan region.

21. (D) Statement I is false but Statement II is true.
A Comprehensive Mobility Plan is a strategic document that moves beyond simple road widening for private vehicles. It prioritizes sustainable transport modes by integrating land use planning with public transit and non-motorized options like walking and cycling. The focus is on moving people efficiently rather than just moving cars, ensuring that urban expansion is supported by a robust, multi-modal, and accessible transportation network.

22. (C) Promoting heavy multi-axle freight trucks in residential zones
Last-mile connectivity focuses on small-scale, flexible solutions that help commuters travel between transit hubs and their final destinations. Innovations like bicycle sharing and e-rickshaw feeders are ideal for this purpose. In contrast, heavy freight trucks are unsuitable for residential areas as they cause congestion and safety hazards, and they do not contribute to the movement of people within the public transport ecosystem.

23. (D) Battery Electric Buses (BEVs)
Under the FAME II initiative, several cities in Madhya Pradesh are modernizing their public transport fleets by introducing battery electric buses. This transition aims to reduce urban air pollution and decrease dependence on fossil fuels. These electric vehicles are supported by central subsidies, making them a viable option for municipalities looking to implement green and sustainable transit solutions for their residents.

24. (A) Increasing FAR and promoting mixed land use in the transit corridor
Transit Oriented Development focuses on creating high-density, mixed-use clusters around mass transit stations. By increasing the Floor Area Ratio, planners encourage more people to live and work within walking distance of public transport. This strategy reduces the need for private vehicle trips and supports the commercial viability of the transit system, leading to more vibrant and sustainable urban environments.

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residents to travel further for basic services and retail needs.

74. (A) Infrastructure Gap Analysis – Identifying the difference between current service delivery and targeted normative benchmarks
Infrastructure gap analysis is a fundamental planning tool used to quantify the shortfall in municipal services. It compares existing capacity against standardized benchmarks to determine where improvements are needed. Other terms like Rapid Visual Screening are used for quick seismic checks, while SLIPs focus on baseline planning for missions like AMRUT. Asset management systems aim to optimize the maintenance and operation of existing infrastructure rather than replacing it without cause.

75. (A) Both A and R are true and R is the correct explanation of A.
Integrating BIM and GIS for underground utility mapping is vital for the success of smart city projects. By creating an accurate 3D model of existing pipes and cables, planners can identify potential conflicts before construction begins. This "clash detection" prevents accidental damage to vital services like water and optic fiber, which would otherwise lead to costly repairs and significant project delays, ensuring a more efficient and safe urban redevelopment process.

76. (C) The brand of the surveying equipment used
Vulnerability mapping focuses on identifying assets at risk from physical, environmental, and natural hazards. Key factors include the age and condition of the infrastructure, its elevation relative to floodplains, and its location within seismic zones. While using high-quality equipment is important for data accuracy, the specific brand of the tool does not influence the inherent vulnerability of the asset itself, which is determined by its physical and geographic characteristics.

77. (D) Statement I is false but Statement II is true.
In the multi-dimensional framework of BIM, the 6D dimension is dedicated to sustainability and energy analysis. It allows engineers and planners to simulate the environmental performance of a building, including its energy consumption over time. This differs from 4D BIM, which focuses on project scheduling and time management. 6D BIM is an essential tool for designing green buildings and optimizing the long-term energy efficiency of modern urban infrastructure.

78. (A) P-2, Q-1, R-4, S-3
National urban missions employ specific operational mechanisms to achieve their goals. NUDM uses the National Urban Innovation Stack for digital public goods. AMRUT 2.0 relies on City Water Balance Plans to manage resources. The Smart Cities Mission uses Special Purpose Vehicles for localized project execution, while the Jal Jeevan Mission focuses on providing universal functional tap connections. These structured approaches ensure that missions are implemented effectively across different urban sectors.

79. (B) Para-transit
Para-transit refers to informal or semi-formal transport services like auto-rickshaws, shared taxis, and mini-buses that supplement formal public transit networks. These services are often flexible and provide critical connectivity in areas not served by large buses or trains. In many Indian cities, managing and integrating para-transit is essential for creating a comprehensive urban mobility system, as it often provides the primary means of transport for a large segment of the population.

80. (D) Implementing a Public Bicycle Sharing system and e-rickshaws
Improving last-mile connectivity is key to increasing the ridership of mass transit systems like the BRTS. By providing accessible options like e-rickshaws and public bicycle sharing at stations, planners make it easier for commuters to reach their final destinations. This reduces reliance on private vehicles for short trips and enhances the overall efficiency and attractiveness of the public transport network, leading to more sustainable and equitable urban travel patterns.

81. (A) It provides urban apartments to rural migrants unconditionally.
The Mukhyamantri Gramin Awas Mission is specifically designed to assist rural families in building durable, permanent houses within their own villages. It operates on a credit-linked subsidy model, helping residents access formal financing to improve their living conditions. It

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CHAPTER 11

Urban Ecology and Environmental Systems

1. Consider the following statements regarding the Urban Heat Island (UHI) effect:

I. It is primarily caused by the replacement of natural land cover with dense concentrations of pavement and buildings.

II. Anthropogenic heat generated by vehicles and air conditioning systems contributes significantly to the UHI effect.

III. The UHI effect is generally more pronounced during the daytime than at night.

IV. Increased urban albedo through white roofs mitigates the UHI effect.

Which of the statements given above are correct?

(A) I and II only

(B) I, II and IV only

(C) II, III and IV only

(D) I, II, III and IV

2. In the context of urban hydrology, how does an increase in impervious surface area within a catchment primarily alter the natural runoff hydrograph?

(A) It decreases the peak discharge and increases the time of concentration.

(B) It maintains the peak discharge but significantly increases the base flow.

(C) It eliminates surface runoff entirely by promoting rapid evaporation.

(D) It increases the peak discharge and decreases the time to peak.

3. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.

Assertion (A): Extensive soil sealing in urban areas leads to a severe decline in urban ecological health and local biodiversity.

Reason (R): Soil sealing prevents the infiltration of water, disrupts the soil gas exchange, and destroys the habitats of soil microbiota.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

4. Which of the following best defines the abiotic components of an urban ecosystem?

(A) The community of native and invasive plant species adapted to the urban core.

(B) The population of urban wildlife and domesticated animals interacting with human habitats.

(C) The network of physical infrastructure, climate, soil, water, and atmospheric gases in a city.

(D) The biological pathogens and microbiota found in urban wastewater systems.

5. Match the urban air pollutants in List I with their primary anthropogenic sources in List II and select the correct answer using the codes given below.

List I: (Urban Air Pollutants)

P. Nitrogen Oxides (NOx)

Q. Sulphur Dioxide (SO_2)

R. Particulate Matter (PM_{10})

S. Volatile Organic Compounds (VOCs)

List II: (Primary Sources)

1. Construction activities and road dust
2. Solvent usage and fuel evaporation
3. Vehicular exhaust emissions
4. Coal combustion in thermal power plants

(A) P-3, Q-4, R-1, S-2

(B) P-4, Q-3, R-2, S-1

(C) P-3, Q-1, R-4, S-2

(D) P-1, Q-2, R-3, S-4

6. Which of the following cities in Madhya Pradesh is characterized by a prominent urban microclimate heavily regulated by the presence of a massive central Ramsar-designated wetland?

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moves across the terrain, planners can identify areas vulnerable to inundation and design effective drainage systems. This is particularly important for cities located near major rivers like the Narmada, where understanding the physical landscape helps in planning safe urban expansions and protecting residents from potential natural disasters and inundation.

90. (B) Resolving conflicts between building systems before construction
Clash detection is a vital feature of BIM that allows designers to identify physical overlaps between different building components, such as structural beams and utility pipes, in a virtual environment. Resolving these conflicts during the design phase is much more cost-effective than making changes on-site. This proactive approach reduces material waste, prevents construction delays, and ensures that complex infrastructure projects are executed more smoothly and accurately.

91. (A) Pithampur-Dhar-Mhow and Ratlam-Nagda
The Delhi-Mumbai Industrial Corridor includes several strategically located investment regions and industrial areas in Madhya Pradesh. Nodes like Pithampur and Ratlam are designated to leverage their existing industrial base and connectivity to boost manufacturing and logistics. These regions receive targeted infrastructure investment to attract global business and promote economic growth, forming a key part of the state's contribution to this high-impact national infrastructure project.

92. (A) 1, 2, and 4 only
Integrated Command and Control Centres act as the central nervous system of a smart city, aggregating real-time data from various sensors and systems. They are critical for managing day-to-day services like traffic and waste collection, as well as coordinating emergency responses during crises. By using advanced video analytics and IoT streams, ICCCs provide urban managers with a comprehensive view of city operations, leading to more efficient resource allocation.

93. (D) CityGML – Closed, proprietary format strictly used for 2D AutoCAD drafting
CityGML is an open, standardized data model for 3D city modeling, not a closed proprietary format. It is used to represent and exchange 3D urban objects with their associated semantic data. Other standards like IFC and LandXML are also open formats that facilitate interoperability in the design and engineering sectors. Digital twins represent the highest level of integration, linking physical assets to real-time digital replicas through the use of IoT technology.

94. (C) Identifying buildings vulnerable to seismic events quickly
Rapid Visual Screening is a cost-effective and efficient method for assessing the seismic safety of large numbers of buildings. It involves a brief visual inspection to identify structural features that may increase the risk of damage during an earthquake. This preliminary assessment helps municipalities prioritize buildings for more detailed structural evaluations, ensuring that resources are directed toward the most vulnerable structures to improve overall urban resilience and public safety.

95. (A) Both A and R are true and R is the correct explanation of A.
Implementing a Unified Metropolitan Transport Authority is often difficult due to the overlapping jurisdictions of various existing agencies. Currently, responsibilities for planning, regulation, and enforcement are split between municipal bodies, transport departments, and traffic police. This institutional fragmentation makes it hard to achieve the high level of coordination needed for a seamless multi-modal transit system. Establishing a functional UMTA is a key step toward more effective transport governance.

96. (D) Aesthetic colour of the pumping station exterior walls
Assessing the physical condition of a water supply network focuses on technical and functional parameters that affect service delivery. Key factors include the frequency of leaks, the presence of internal corrosion, and the maintenance of adequate water pressure for consumers. While the aesthetic appearance of facilities might be a matter of urban design, it does not provide information about the structural integrity or operational efficiency of the underground utility network itself.

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112. (D) It captures overlapping images to generate 3D models.
Drone-based photogrammetry is an advanced mapping technique that uses high-resolution cameras to take multiple overlapping photos of a site from different angles. Special software then processes these images to reconstruct the 3D geometry of buildings and terrain. This method is highly effective for creating detailed urban models and monitoring construction progress. It is a legal and increasingly common practice in Indian urban planning, providing a cost-effective alternative to traditional aerial or ground-based physical surveys.

113. (A) Both A and R are true and R is the correct explanation of A.
Implementing a National Common Mobility Card across different transit systems, such as buses and the metro, is essential for a seamless commuter experience. A unified ticketing system allows passengers to transfer between modes easily without needing separate tickets. This reduces friction, improves the efficiency of fare collection, and encourages more people to use public transport. It is a key component of an integrated urban mobility strategy that prioritizes passenger convenience and multi-modal travel.

114. (C) The physical geographic distance between two different smart cities.
Interoperability challenges in a digital ecosystem are primarily related to the ability of different systems and data formats to work together. This includes issues like proprietary software lock-in, a lack of common data standards, and incompatibility between old and new databases. The physical distance between cities does not affect how their digital systems interact, as data can be shared instantly over networks. Ensuring interoperability is vital for creating a cohesive and functional smart city infrastructure.

115. (A) Both Statement I and Statement II are true.
Pradhan Mantri Awas Yojana (Urban) utilizes GIS mapping and geotagging to monitor the progress of house construction across Madhya Pradesh. By requiring photos of each construction stage to be uploaded with geographic coordinates, the mission ensures that subsidies are only released for actual physical work. This digital oversight increases transparency, prevents fraud, and allows for real-time tracking of the project's progress toward providing affordable housing to all eligible and identified urban residents.

116. (A) P-4, Q-3, R-1, S-2
Various infrastructure components support the efficient operation of a public transport system. Depots provide the necessary space for vehicle maintenance and storage. Intelligent transport systems use real-time data to improve vehicle tracking and passenger information. Pedestrian bridges and subways ensure safe access for commuters crossing busy roads. Finally, feeder services bridge the gap between transit hubs and final destinations, completing the last-mile journey and making the overall system more accessible and effective.

117. (B) Adding non-geometric semantic data to assets
In 3D modeling, adding semantic data involves attaching non-geometric information to physical objects. This includes details such as a building's age, its current usage, and ownership history. By including this information, a 3D model becomes more than just a visual representation; it turns into a powerful database for urban management and analysis. This semantic layering is a key feature of advanced standards like CityGML, allowing planners to perform complex spatial and social queries.

118. (C) Providing a 3D clash-detection environment for designs
The primary goal of integrating BIM and GIS for utility planning is to create a comprehensive 3D environment where designers can see how new pipes or cables interact with existing infrastructure. This allows for "clash detection," where potential physical conflicts are identified and resolved before any digging begins. By avoiding accidental damage to current services, this approach significantly reduces project risks, prevents unexpected costs, and ensures that new utility corridors are designed with high accuracy.

119. (D) LOD 2 features roof shapes while LOD 3 adds detailed exterior windows
The CityGML standard defines different levels of detail based on the complexity of the model's geometry and features. LOD 2 provides a basic 3D representation of a building, including the general shape of its roof. LOD 3 increases this detail by

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sharing and more efficient digital project delivery. This integrated approach is a key step toward developing functional city-level digital twins.

105. (A) Both A and R are true and R is the correct explanation of A.
The successful implementation of BIM in India is currently hindered by the high cost of software and a significant gap in technical skills. Mandating the use of these tools without first providing adequate training for municipal engineers and contractors creates substantial bottlenecks. To overcome these challenges, a structured approach to capacity building and the adoption of standardized protocols is necessary, ensuring that the benefits of digital construction technology can be fully realized.

106. (B) LRT entails higher capital costs and longer construction times.
While Light Rail Transit offers a permanent, high-quality transit experience, it requires a much larger initial investment compared to a Bus Rapid Transit System. The construction of tracks and specialized power systems also takes significantly longer to complete. For many tier-2 cities in Madhya Pradesh, the lower cost and greater flexibility of BRTS may make it a more viable option for addressing urgent urban mobility needs while still providing high-capacity transit service.

107. (D) Statement I is false but Statement II is true.
The Atal Mission for Rejuvenation and Urban Transformation is specifically designed to improve infrastructure and service delivery in designated urban areas. It focuses on large cities and towns, targeting essential services like water supply, sewerage, and green spaces. Contrary to being a rural scheme, AMRUT aims to build municipal capacity and implement urban reforms, ensuring that the growing urban population has access to reliable civic amenities and an improved overall quality of life.

108. (A) P-3, Q-1, R-4, S-2
Asset management involves a variety of analytical tools to ensure infrastructure performance. Life cycle costing calculates the total cost of ownership, while condition assessment evaluates physical wear and tear. Vulnerability mapping identifies assets at risk from environmental hazards. Gap analysis is used to measure the difference between current capacity and future demand. Together, these concepts provide a comprehensive framework for making informed decisions about the maintenance, upgrade, and replacement of various municipal assets.

109. (D) Ensuring cost recovery and accessing blended finance
Planning for large-scale water infrastructure requires a sustainable financial strategy that ensures the project can pay for its own operations and maintenance. This is achieved through cost recovery mechanisms like user charges. Additionally, planners should explore blended finance options that combine public funds with private investment or loans from international agencies. This balanced approach reduces the financial burden on the municipality while ensuring the long-term reliability of the essential water supply service.

110. (C) Allowing real-time crowd monitoring and resource allocation
During large-scale events like the Simhastha Kumbh Mela, a Digital Twin can be a powerful tool for city management. By integrating real-time data from cameras and sensors, the system allows authorities to monitor crowd density and movement across the city. This information is critical for managing traffic, directing emergency services, and allocating resources where they are most needed, ensuring the safety and comfort of millions of pilgrims in a highly complex and dynamic urban environment.

111. (A) 1, 2, and 4 only
Municipal bonds are a vital tool for local governments to finance major capital projects like water and sewerage. To attract investors, cities must maintain a good credit rating and often use escrow accounts to ensure that project revenues are dedicated to debt repayment. These funds are legally restricted to specific infrastructure projects and cannot be used for everyday administrative costs like salaries. This mechanism promotes financial discipline and allows cities to undertake large-scale development.

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97. (C) Statement I is true but Statement II is false.
The National Smart Cities Mission prioritizes retrofitting, which involves improving existing built-up areas with better infrastructure and smart technologies. This approach is more common than greenfield development, which creates entirely new cities on vacant land. Retrofitting allows municipalities to address the needs of their current residents while demonstrating how technology can enhance urban life. Both strategies aim to create more efficient and livable urban environments using modern sustainable practices.

98. (A) P-4, Q-3, R-1, S-2
Building Information Modelling uses different dimensions to manage various aspects of a project. 4D BIM integrates time for construction scheduling, while 5D provides real-time cost estimations. 6D BIM is used to analyze energy efficiency and sustainability. Finally, 7D BIM supports the long-term management and maintenance of the completed facility. This structured approach ensures that data generated during the design and construction phases remains useful for the entire life of the asset.

99. (A) Level boarding platforms aligned with the bus floor height and off-board fare collection
Dwell time at stations can be significantly reduced by implementing design features that facilitate rapid passenger movement. Level boarding allows commuters to enter and exit the bus quickly without navigating steps, while off-board fare collection ensures that tickets are purchased before the bus arrives. These features, common in high-quality BRT systems like the one in Bhopal, are essential for maintaining high operational speeds and a reliable, efficient transit schedule.

100. (D) Integrating multi-modal strategies with master plans
The most effective methodology for a Comprehensive Mobility Plan involves a holistic approach that integrates various transport modes into the city's overall development strategy. Rather than just focusing on cars, a CMP prioritizes public transit, walking, and cycling. By aligning transport planning with the city's master plan and conducting extensive data analysis and public consultation, planners can create a sustainable and accessible mobility network that supports long-term urban growth.

101. (A) 2, 3, 1, 4
Spatial data for infrastructure projects is organized across multiple scales of detail. It begins at the regional level with 2D GIS maps showing land use. Next, 3D CityGML models provide building footprints and roof structures. Following this, BIM models offer highly detailed information about individual structural components. The final stage is the Digital Twin, which integrates all these elements with real-time sensor data, providing a dynamic and comprehensive view of the entire system.

102. (C) 3D city models (at least LOD 2 or LOD 3) and historical meteorological data
To accurately simulate urban wind flows, planners require detailed 3D models that include the shapes and orientations of buildings. Models at LOD 2 or LOD 3 provide the necessary geometric detail of roofs and facades. This spatial data must be combined with historical meteorological data, such as wind speed and direction, to create realistic scenarios. These simulations help in identifying wind-tunnel effects and ensuring pedestrian comfort around high-rise developments.

103. (D) Both cities have fully operationalized their entire Phase-1 networks.
While both Indore and Bhopal have made significant progress on their metro rail projects, they have not yet fully operationalized their entire Phase-1 networks. Construction is still ongoing on several priority corridors and stations. The MP Metro Rail Corporation Limited continues to manage these projects, which are designed to integrate with existing transport modes like the BRTS to provide a seamless and efficient mass transit system for the state's major cities.

104. (A) 1, 2, and 4 only
Integrating open BIM standards with GIS allows for a comprehensive understanding of both individual building details and their wider urban context. This synergy is particularly useful for mapping underground utilities and coordinating connections to the city-wide grid. By using open standards, municipalities avoid being locked into proprietary software, facilitating easier data

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adding architectural features such as windows, doors, and balconies to the exterior facade. This distinction is important for applications like urban design and heritage modeling, where more detailed external visualizations are necessary for accurate spatial analysis.

120. (A) Streamlining municipal e-governance and spatial planning

The National Urban Digital Mission aims to modernize city management by creating a shared digital infrastructure across India. In Madhya Pradesh, NUDM will play a crucial role in streamlining e-governance services and integrating spatial planning with digital platforms. By standardizing data and processes, the mission helps municipalities become more efficient and transparent, making it easier for them to manage urban growth and deliver better services to their residents through a unified digital ecosystem.

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does not provide urban apartments to migrants, as its primary focus is on strengthening rural housing infrastructure and supporting those who are currently excluded from other national housing schemes.

82. (A) 1, 2, and 3 only
IoT sensors and urban data streams are fundamental to smart city management. They provide real-time information on air quality, water usage, and infrastructure performance, which is aggregated in Integrated Command and Control Centres for better decision-making. While these technologies significantly improve the efficiency of monitoring and response, they do not eliminate the need for physical maintenance. Instead, they help target maintenance efforts more effectively by identifying specific problems as they occur.

83. (A) 3, 1, 4, 2
The tools used for spatial and infrastructure modeling have evolved from basic 2D CAD and GIS mapping to more complex 3D representations. Following this, Building Information Modelling introduced detailed data for individual assets. The most advanced stage is the development of Digital Twins, which integrate BIM and GIS with real-time IoT data. This progression represents an increasing level of detail and a move toward dynamic, real-time monitoring of entire urban systems.

84. (D) Developing civic infrastructure around various heritage sites
The HRIDAY scheme focuses on preserving the unique character of heritage cities while improving the quality of life for residents and visitors. This is achieved by developing essential civic infrastructure such as sanitation, lighting, and pathways around historical landmarks. By integrating conservation with modern urban amenities, the mission ensures that heritage assets remain central to the city's economic and social life, promoting sustainable tourism and cultural pride.

85. (A) Both A and R are true and R is the correct explanation of A.
In India, the standard normative benchmark for urban water supply in cities with sewerage systems is 135 Litres Per Capita per Day, as recommended by the CPHEEO. Infrastructure gap analysis uses this target to evaluate the performance of existing networks. Comparing current supply levels against this benchmark allows planners to identify deficits and plan for the necessary capacity upgrades to meet the daily needs of the growing urban population.

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86. (C) LOD 8
The CityGML standard defines five specific Levels of Detail for 3D city modeling, ranging from LOD 0 to LOD 4. Each level represents an increasing degree of geometric and semantic complexity, from simple 2D footprints to detailed interior structures. "LOD 8" is not a recognized level within this international standard. Using these defined levels ensures consistency and interoperability when sharing 3D spatial data across various urban planning and management applications.

87. (C) Statement I is true but Statement II is false.
Under the AMRUT mission, the Service Level Improvement Plan is a critical bottom-up planning tool created by Urban Local Bodies. It involves assessing current service levels and identifying gaps primarily in core sectors like water supply and sewerage management. While digital connectivity is important, it is not the focus of a SLIP. Instead, the document provides the roadmap for infrastructure investments needed to achieve national service level benchmarks for essential utilities.

88. (A) P-2, Q-3, R-4, S-1
Madhya Pradesh uses various specialized entities to manage its urban development and transport. MPUDC focuses on executing major water and sewerage projects, often with international funding. BCLL is responsible for managing public bus services in Bhopal, while the iBus system is Indore's successful BRTS model. PMAY (Urban) implementation involves multiple verticals like AHP and ISSR to provide affordable housing. These agencies ensure a coordinated approach to improving urban infrastructure.

89. (B) Simulating flood zones and designing drainage alignments
Highly accurate topographic models created from LiDAR and photogrammetry are essential for flood risk management. By simulating how water

(A) Gwalior
(B) Jabalpur
(C) Ujjain
(D) Bhopal

7. Arrange the following landmark environmental policy and legislative interventions in India in their correct chronological order of enactment:
I. Environment (Protection) Act
II. Water (Prevention and Control of Pollution) Act
III. National Environment Policy
IV. Air (Prevention and Control of Pollution) Act
(A) II, IV, I, III
(B) II, I, IV, III
(C) IV, II, I, III
(D) I, II, IV, III

8. Identify the INCORRECT statement regarding the ambient air quality standards for noise in India.
(A) The permissible noise limit for residential areas during the daytime is exactly 55 dB(A) Leq.
(B) The permissible noise limit for commercial areas during the nighttime is exactly 55 dB(A) Leq.
(C) Silence zones are defined as areas within a 500-meter radius of hospitals and educational sites.
(D) The permissible noise limit for industrial areas during the daytime is exactly 75 dB(A) Leq.

9. Consider the following statements regarding urban light pollution:
Statement I: Skyglow is the brightening of the night sky over inhabited areas caused by the scattering of artificial light by moisture and dust in the air.
Statement II: Ecological light pollution exclusively affects the migratory patterns of birds without impacting nocturnal mammals or aquatic ecosystems.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

10. A town planner is tasked with reducing air stagnation in a densely built urban core. Which concept application is most appropriate for establishing natural ventilation corridors?
(A) Orienting continuous, wide greenways parallel to the prevailing local wind directions.
(B) Aligning major street grids perpendicular to the direction of prevailing summer winds.
(C) Ensuring uniform building heights across the entire urban block to prevent wind sheer.
(D) Placing tall skyscraper clusters directly at the entry point of the prevailing winds.

11. Which of the following is a correctly matched pair regarding the urban carbon cycle?
(A) Carbon source — Urban afforestation projects
(B) Carbon sink — Preserved urban wetlands and peatlands
(C) Carbon sequestration — Municipal solid waste incineration
(D) Carbon neutral — Conventional cement manufacturing

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12. Which of the following is the most appropriate method for enhancing groundwater recharge in a highly built-up urban watershed with cohesive soils?
(A) Widespread installation of deep injection wells directly into the local confined aquifer.
(B) Development of a networked system of bioswales, rain gardens, and permeable pavements.
(C) Construction of large concrete-lined detention basins designed to hold water indefinitely.
(D) Complete removal of all existing vegetative cover to reduce natural evapotranspiration.

13. Consider the following statements regarding urban wildlife corridors:
I. They prevent the genetic isolation of fragmented animal populations.
II. They must consist exclusively of uninterrupted dense forest patches.

III. They facilitate the movement of flora and fauna across an urban matrix.
IV. Linear parks and riparian buffers often function as effective corridors.
Which of the statements given above are correct?
(A) I, II and III only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II, III and IV

14. The concept of "biotic homogenisation" in urban environments refers to:
(A) The even spatial distribution of a single keystone species across all parks within a metropolitan city.
(B) The intentional planting of a single ornamental tree species to create uniform and managed streetscapes.
(C) The process where unique local native species are replaced by widespread, generic or invasive species.
(D) The restoration of historical biodiversity levels through targeted and highly specialized conservation efforts.

15. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Invasive alien species in urban environments often outcompete native flora and fauna.
Reason (R): Invasive species typically lack natural predators in the new urban environment and possess high adaptability to disturbed habitats.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

16. How does the URDPFI (Urban and Regional Development Plans Formulation and Implementation) Guidelines define the desirable benchmark for green cover within the developed area of a city?
(A) 5-10% of the area
(B) 12-18% of the area
(C) 20-30% of the area
(D) 35-40% of the area

17. Match the components of the ecological network planning model in List I with their corresponding definitions in List II.
List I: (Network Components)
P. Core areas (Patches)
Q. Corridors
R. Matrix
S. Buffers
List II: (Definitions)
1. The dominant background land use type in which network elements are embedded
2. Transitional zones protecting critical habitats from external urban disturbances
3. Large, intact ecosystems providing primary habitats for biodiversity
4. Linear landscape elements facilitating connectivity and species movement
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-2, R-3, S-4

18. In the context of Madhya Pradesh, which of the following urban protected areas is uniquely integrated within the city limits of Bhopal, acting as a critical biodiversity hotspot and ex-situ conservation center?
(A) Madhav National Park
(B) Ralamandal Sanctuary
(C) Nauradehi Sanctuary
(D) Van Vihar National Park

19. Arrange the typical procedural steps for preparing an Urban Biodiversity Index (Singapore Index) assessment in chronological order:
I. Calculation of individual indicator scores
II. Defining the geographical boundaries of the city
III. Gathering baseline data on native biodiversity and ecosystem services
IV. Aggregation of scores to establish the final city baseline index
(A) II, III, I, IV
(B) III, II, I, IV
(C) II, I, III, IV
(D) III, I, II, IV

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20. Identify the INCORRECT statement regarding urban forestry.
(A) Urban forests include street trees, park trees, and remnant forest patches within the city limits.
(B) A primary ecological function of urban forests is stormwater interception and mitigation of runoff.
(C) Urban forests completely eliminate the need for engineered gray infrastructure for flood control.
(D) Urban tree canopies play a significant role in reducing the urban heat island effect.

21. Consider the following statements regarding ecosystem services provided by urban biodiversity:
Statement I: Provisioning services in cities include the production of food through urban agriculture and the supply of freshwater.
Statement II: Regulating services are primarily concerned with providing recreational spaces and aesthetic value to urban residents.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

22. A planner is demarcating a protected area buffer in an expanding urban periphery. According to ecological principles, which type of development is most appropriate within this buffer zone?
(A) Large-scale heavy industrial complexes equipped with modern zero liquid discharge systems.
(B) High-density commercial central business districts (CBDs) designed to maximize land value.
(C) Extensive sanitary landfill sites planned to manage future peripheral urban waste generation.
(D) Low-impact eco-tourism facilities and low-density residential zoning with high green cover.

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23. Which of the following is a correctly matched pair regarding native vs invasive species in the Indian urban context?
(A) Native Species — Lantana camara
(B) Invasive Species — Prosopis juliflora
(C) Native Species — Eichhornia crassipes (Water Hyacinth)
(D) Invasive Species — Azadirachta indica (Neem)

24. What is the most appropriate primary ecological rationale for promoting urban agriculture in a metropolitan area?
(A) To generate maximum municipal revenue through property taxation on designated farmlands.
(B) To entirely replace rural agricultural supply chains for city-wide food security goals.
(C) To reduce food miles, enhance local nutrient recycling, and provide urban green spaces.
(D) To clear remnant forests for the development of highly productive cash crop plantations.

25. Consider the following statements regarding the ISO 14001 Environmental Management System (EMS):
I. It provides a framework that an organization can follow to set up an effective EMS.
II. It guarantees immediate reduction in environmental impact upon certification.
III. It is based on the Plan-Do-Check-Act (PDCA) continuous improvement cycle.
IV. It mandates specific environmental performance criteria that apply universally to all cities.
Which of the statements given above are correct?
(A) I and III only
(B) I, II and III only
(C) II and IV only
(D) I, III and IV only

26. The Carrying Capacity Analysis for an urban area is fundamentally defined as:
(A) The maximum population and economic activity an urban environment can sustain without damage.
(B) The maximum financial debt a municipal corporation can incur for specific environmental projects.
(C) The total volume of traffic that the urban road network can accommodate during

aims to restore the lake's biodiversity, what is the most ecologically sound initial step?
(A) Dumping heavy doses of broad-spectrum chemical herbicides into the lake water system.
(B) Draining the lake entirely and paving the bed to prevent future aquatic weed growth.
(C) Introducing an aggressive exotic predatory fish species to consume the weed and plants.
(D) Mechanically removing the invasive weed while stopping the untreated sewage inflow.

80. All of the following are common characteristics of invasive alien species in urban environments, EXCEPT:
(A) Rapid reproduction and growth rates.
(B) High dispersal ability.
(C) Specialized and narrow diet and habitat requirements.
(D) Phenotypic plasticity enabling adaptation to varying environmental conditions.

81. Consider the following statements regarding urban microbiota:
Statement I: Urban microbiota includes the diverse communities of bacteria, fungi, and viruses present in urban soils, air, and water.
Statement II: Reduced contact with diverse environmental microbiota in heavily concretized urban areas is linked to higher rates of allergies and immune system disorders in humans.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

82. An application of preserving "remnant forests" within an expanding city grid serves primarily to:
(A) Provide large tracts of land for future high-density slum resettlement and housing.
(B) Function as the primary disposal site for municipal solid waste and organic refuse.
(C) Maximize the urban heat island effect by trapping hot air within the dense canopy.
(D) Act as biodiversity anchors preserving the original regional flora and soil microbial life.

83. Identify the correct statement regarding urban biodiversity assessment methods.
(A) The Singapore Index groups indicators into native biodiversity, ecosystem services, and governance.
(B) The City Biodiversity Index (Singapore Index) evaluates exclusively the number of bird species in a city.
(C) Remote sensing and GIS cannot be used to map or assess urban green infrastructure or forest cover.
(D) Biodiversity assessments in cities are strictly qualitative and do not use any quantitative metrics.

84. A planner must design a buffer zone for a protected area located near a growing urban center. Which competency demonstrates the correct application of ecological buffer zoning?
(A) Zoning the innermost ring adjacent to the core area for heavy industries to generate revenue for city conservation.
(B) Designing a hard boundary like a major expressway right on the edge of the core to prevent animal crossing.
(C) Creating a gradient where high-impact activities are furthest away and low-impact nature trails are adjacent.
(D) Permitting high-rise residential towers directly overlooking the core to maximize real estate and land value.

85. Consider the following statements regarding the roles of the Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) like MPPCB:
I. CPCB coordinates the activities of SPCBs and resolves disputes among them.
II. MPPCB is responsible for planning comprehensive state-level programs for the prevention of water and air pollution.
III. CPCB directly issues Consent to Operate (CTO) for all small-scale industries in Madhya Pradesh.
IV. MPPCB sets the state-specific standards for effluent discharge within the framework of national standards.
Which of the statements given above are correct?

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Statement I: GPP is a process whereby public authorities seek to procure goods and services with a reduced environmental impact throughout their life cycle.
Statement II: Implementing GPP legally prohibits a municipal corporation from considering the financial cost of a product during the tendering process.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

34. A manufacturing plant in an urban fringe area has completed its construction phase. What regulatory mechanism must the plant apply for before commencing actual production and discharging effluents?
(A) Environmental Impact Assessment (EIA)
(B) Consent to Establish (CTE)
(C) Corporate Social Responsibility (CSR) certificate
(D) Consent to Operate (CTO)

35. Which of the following is a correctly matched pair regarding environmental information systems?
(A) ENVIS — Environmental Information System network established by the MoEFCC
(B) SOER — Standard Operations for Environmental Regulation and Compliance
(C) CPCB — Central Planning and Conservation Board for National Development
(D) AQI — Ambient Quality of Industrial Emissions and Factory Standards

36. Which is the most appropriate primary objective of preparing a State of Environment Report (SoER) at the municipal or state level?
(A) To strictly punish industries violating the Air Act regulations.
(B) To redesign the transportation network to alleviate traffic congestion.
(C) To provide a comprehensive overview of environmental conditions to inform policy.
(D) To serve as the statutory master plan for real estate development.

37. Consider the following statements regarding the integration of Blue-Green Infrastructure (BGI) in urban planning:
I. BGI creates a synergized network that manages urban water while providing ecological benefits.
II. Integration of BGI requires the complete replacement of all existing gray stormwater infrastructure.
III. BGI networks enhance urban resilience against extreme weather events like pluvial flooding.
IV. Open space planning can incorporate detention basins that function as parks during dry periods.
Which of the statements given above are correct?
(A) I, II and III only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II, III and IV

38. The "Sponge City" concept primarily aims to:
(A) Maximize the use of impermeable concrete to rapidly channel rainwater out of the city limits.
(B) Construct massive underground reservoirs strictly for long-term drinking water storage and use.
(C) Utilize synthetic sponge-like materials for modern structural building foundations and support.
(D) Retain, clean, and percolate rainwater naturally using ecologically sensitive infrastructure.

39. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): The implementation of riparian buffer zones along urban rivers significantly improves downstream water quality.
Reason (R): Vegetation in the riparian buffer filters non-point source pollutants, stabilizes riverbanks, and reduces sediment runoff into the water body.
(A) Both A and R are true and R is the correct explanation of A.

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and storage to meet the increasing water demands of city growth.

53. Match the ISO standard frameworks in List I with their primary focus areas in List II.
List I: (ISO Standards)
P. ISO 14001
Q. ISO 37120
R. ISO 9001
S. ISO 50001
List II: (Focus Areas)
1. Indicators for sustainable cities and communities
2. Environmental management systems
3. Energy management systems
4. Quality management systems
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-3, R-1, S-4
(D) P-3, Q-1, R-2, S-4

54. Which city in Madhya Pradesh has consistently focused on environmental sustainability indicators, successfully executing a Clean Air Action Plan, and consecutively ranking first in the Swachh Survekshan?
(A) Gwalior
(B) Rewa
(C) Satna
(D) Indore

55. Arrange the chronological phases typically involved in the implementation of the National Clean Air Programme (NCAP) at the city level:
I. Source apportionment and emission inventory study
II. Identification of non-attainment cities based on historical air quality data
III. Implementation of specific mitigation actions (e.g., paving roads, EV promotion)
IV. Continuous monitoring and midterm review of PM concentration reduction targets
(A) II, I, III, IV
(B) I, II, III, IV
(C) II, III, I, IV
(D) I, III, II, IV

56. Identify the INCORRECT statement regarding Material Flow Analysis (MFA) in cities.
(A) MFA quantifies the flow of materials entering, accumulating within, and leaving the urban system.
(B) It is a crucial tool for transitioning cities from a linear economy to a circular economy.
(C) It exclusively focuses on measuring the atmospheric concentration of greenhouse gases.
(D) The outputs in MFA typically include solid waste, wastewater, and air emissions.

57. Consider the following statements regarding the Green City Index methodology:
Statement I: It typically benchmarks cities based on quantitative environmental performance indicators such as energy, water, waste, and air quality.
Statement II: A city scoring high on the Green City Index guarantees that it experiences zero poverty or economic inequality.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

58. A municipality wants to reduce its urban ecological footprint. Which intervention applies the principle of reducing resource consumption patterns most effectively?
(A) Promoting transit-oriented development and active mobility walking/cycling corridors.
(B) Expanding the urban boundary to accommodate modern low-density suburban residential sprawl.
(C) Subsidizing domestic fossil fuel consumption to lower the daily living costs for residents.
(D) Replacing native landscaping with water-intensive exotic grass lawns for aesthetic appeal.

59. Which of the following is a correctly matched pair regarding the National Clean Air Programme (NCAP)?
(A) Base year for PM reduction targets — 2025
(B) Non-attainment cities — Cities failing to meet the National Ambient Air Quality

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(D) Both Statement I and Statement II are incorrect.

46. An urban planner is addressing frequent pluvial flooding in a low-lying residential neighborhood. Which Nature-based Solution (NbS) is best applied to detain runoff at the street level?
(A) Widening the existing underground concrete sewer pipes.
(B) Constructing a solid boundary wall around the neighborhood.
(C) Installing vegetated rain gardens integrated into the street curbs.
(D) Diverting all local runoff directly into the centralized sewage treatment plant.

47. Which of the following is a correctly matched pair regarding infrastructure classification?
(A) Blue Infrastructure — Green walls and street trees
(B) Green Infrastructure — Canals and navigable waterways
(C) Social Infrastructure — Permeable pavements
(D) Gray Infrastructure — Piped drainage networks

48. What is the most appropriate role of urban wetland restoration in municipal flood management?
(A) To accelerate the flow of floodwaters directly into the sea through concrete channels.
(B) To provide deep water channels for heavy commercial navigation during monsoon seasons.
(C) To act as a natural sponge that attenuates peak flood volumes and slowly releases water.
(D) To eradicate all aquatic vegetation to increase water flow velocity in the wetland area.

49. Consider the following statements regarding the Urban Ecological Footprint:
I. It measures the amount of biologically productive land and water area required to sustain a city's population.
II. It only calculates the geographical land area within the administrative boundaries of the city.
III. It includes the area needed to assimilate the waste generated by the city's population.
IV. A sustainable city typically aims to reduce its per capita ecological footprint over time.
Which of the statements given above are correct?
(A) I, II and III only
(B) I, III and IV only
(C) II, III and IV only
(D) I, II, III and IV

50. The "Urban Metabolism" in environmental planning primarily involves:
(A) The measurement of the average physical fitness and health metrics of city residents.
(B) The speed at which vehicular traffic flows through the central business district roads.
(C) The rate of architectural styling transitions over various historical urban periods.
(D) The analysis of a city's input of resources and output of wastes, similar to an organism.

51. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Implementing Zero Liquid Discharge (ZLD) systems in urban industrial estates ensures that no untreated effluent is released into local water bodies.
Reason (R): ZLD systems rely entirely on natural biological breakdown in open lagoons to completely evaporate the industrial wastewater.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

52. Water Sensitive Urban Design (WSUD) can be best defined as an approach that:
(A) Eliminates surface water bodies in cities to prevent disease vectors from breeding in residential zones.
(B) Designs architectural structures explicitly to withstand total water submergence during tsunami events.
(C) Integrates the urban water cycle and land management into design to reduce environmental impacts.
(D) Focuses on deep groundwater extraction

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66. In the context of Madhya Pradesh, urban planning for cities situated in the Narmada River basin must specifically prioritize which ecological mandate?
(A) Construction of highly polluting tanneries directly on the riverbanks for water access.
(B) Rapid concretization of the riverbed to facilitate vehicular traffic during dry seasons.
(C) Elimination of all ghats to prevent public access to the water for safety reasons.
(D) Maintenance of a designated 'No Construction Zone' or riparian buffer along the river.

67. If a newly proposed state highway bypasses a major tier-2 city in MP and ambient noise levels are projected to reach 80 dB(A), which is the most effective mitigation strategy?
(A) Installing multi-layered vegetative noise barriers and earth berms along the highway.
(B) Mandating that all residents permanently seal all windows in their homes for noise reduction.
(C) Reducing the speed limit of the highway to exactly 10 km/hr for all vehicles permanently.
(D) Constructing a continuous 15-meter high solid concrete wall lacking any ecological integration.

68. All of the following are recognized mitigation strategies for the Urban Heat Island (UHI) effect, EXCEPT:
(A) Increasing the urban tree canopy cover.
(B) Utilizing high-albedo (reflective) roofing materials.
(C) Expanding the area of dark asphalt parking lots.
(D) Implementing green roofs and vertical gardens.

69. Consider the following statements regarding impervious surfaces in cities:
Statement I: High percentages of impervious surfaces decrease the base flow of urban streams during dry weather.
Statement II: Impervious surfaces facilitate the accumulation of non-point source pollutants which are rapidly flushed into water bodies during rainfall.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

70. A city plans to enhance its carbon sequestration capacity. Which application within urban park planning will maximize long-term carbon storage?
(A) Planting fast-growing annual ornamental flowers in raised concrete beds.
(B) Paving park pathways extensively with standard Portland cement to prevent soil erosion.
(C) Frequently tilling and replacing the topsoil every season to maintain visual freshness.
(D) Establishing dense stands of long-lived native tree species with undisturbed deep soil profiles.

71. Identify the correct statement regarding natural ventilation corridors in urban design.
(A) They are designed to block prevailing winds to keep the city warm during summer months.
(B) They mitigate the heat island effect and disperse pollutants by allowing wind penetration.
(C) They require the construction of continuous, unbroken rows of high-rise buildings along the path.
(D) They are only effective in coastal cities and have no real application in landlocked urban centers.

72. A planner is evaluating a watershed for groundwater recharge potential. Which combination of soil and land use indicates the highest competency for natural recharge?
(A) Heavy clay soils under a dense commercial district.
(B) Solid bedrock geology under an industrial estate.
(C) Sandy loam soils under a maintained urban parkland.
(D) Silt loam soils completely covered by

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Standards
(C) Primary target pollutant under NCAP — Ozone depletion substances from industrial sources
(D) Nodal implementing agency at central level — Ministry of Road Transport and Highways Office

60. Which is the most appropriate rationale for utilizing indicators like ISO 37120 in municipal administration?
(A) To strictly replace the master planning process with a standard numeric checklist system.
(B) To provide a standardized method to benchmark and track sustainable performance over time.
(C) To determine the exact financial compensation paid to local citizens for environmental damage.
(D) To rank individual neighborhoods for the purpose of implementing differentiated property taxation.

61. Consider the following statements regarding the Air Quality Index (AQI) system in India:
I. It transforms complex air quality data of various pollutants into a single number, nomenclature, and color.
II. It considers exactly three pollutants: PM_{10}, $PM_{2.5}$, and SO_2.
III. The 'Severe' category in AQI implies respiratory impact even on healthy people.
IV. The index calculation requires a minimum of 16 hours of monitored data for meaningful reporting.
Which of the statements given above are correct?
(A) I and III only
(B) I, III and IV only
(C) II and IV only
(D) I, II, III and IV

62. The ecological consequence of widespread "soil sealing" in urban centers includes all of the following EXCEPT:
(A) Reduction in natural groundwater recharge
(B) Increase in surface runoff volume and velocity
(C) Significant enhancement of urban soil biodiversity and earthworm populations
(D) Exacerbation of the urban heat island effect

63. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Urban light pollution can severely disrupt the ecological balance of urban ecosystems.
Reason (R): Excessive artificial light at night interferes with the navigation of migratory birds, the foraging behavior of nocturnal animals, and the mating cycles of certain insects.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

64. Thermal comfort in an urban microclimate is best defined as:
(A) The absolute ambient air temperature measured strictly at 2 meters above ground level.
(B) The maximum heat load that a residential air conditioning unit can remove in one hour.
(C) Satisfaction with the thermal environment as influenced by air, heat, humidity, and wind.
(D) The differential temperature between the urban core and the rural periphery at midnight.

65. Match the following urban surfaces in List I with their typical runoff coefficients in hydrology in List II.
List I: (Urban Surfaces)
P. Asphalt pavement
Q. Dense forest/Parkland (flat)
R. Commercial downtown (highly impervious)
S. Single-family residential (moderate lawns)
List II: (Runoff Coefficients)
1. 0.10 - 0.20
2. 0.30 - 0.50
3. 0.70 - 0.95
4. 0.90 - 0.95
(A) P-4, Q-1, R-3, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-1, Q-4, R-2, S-3
(D) P-4, Q-3, R-1, S-2

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(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

40. Which of the following best describes a "bioswale"?
(A) A deep underground concrete tunnel used to divert raw sewage from urban centers to plants.
(B) An impermeable artificial channel constructed solely for the purpose of rapid flood drainage.
(C) A shallow, vegetated landscape depression designed to capture and treat stormwater runoff.
(D) A highly mechanized water treatment plant located at the outfall of a municipal drain system.

41. Match the Blue-Green Infrastructure elements in List I with their primary hydrological function in List II.
List I: (Infrastructure Elements)
P. Permeable pavements
Q. Green roofs
R. Constructed wetlands
S. Rain barrels
List II: (Hydrological Functions)
1. On-site rainwater harvesting at the household level
2. Infiltration of surface runoff in parking lots and walkways
3. Large-scale biological treatment of stormwater and wastewater
4. Delaying peak runoff from building footprints and improving thermal insulation
(A) P-2, Q-4, R-3, S-1
(B) P-4, Q-2, R-1, S-3
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-4, R-2, S-1

42. Under the AMRUT 2.0 mission, which of the following is a key mandated component directly related to urban blue infrastructure in Madhya Pradesh cities?
(A) The rejuvenation and restoration of urban water bodies and step-wells (baolis).
(B) The construction of elevated expressways over existing riverbeds and floodplains.
(C) The filling of urban lakes to create new residential land banks for development.
(D) The exclusive development of piped water supply using only deep municipal borewells.

43. Arrange the chronological evolution of urban stormwater management paradigms from traditional to modern approaches:
I. Water Sensitive Urban Design (WSUD)
II. Conventional rapid conveyance (Gray infrastructure/drainage)
III. Sponge City and Nature-based Solutions (NbS)
IV. Detention and retention-based management (Best Management Practices)
(A) II, IV, I, III
(B) II, I, IV, III
(C) IV, II, I, III
(D) I, II, IV, III

44. Identify the INCORRECT statement regarding green roofs and green walls.
(A) Extensive green roofs require shallow substrate layers and minimal maintenance compared to intensive green roofs.
(B) Green roofs significantly increase the total volume and peak flow rate of stormwater runoff from a building.
(C) Green walls (vertical gardens) contribute to the reduction of the urban heat island effect by cooling building envelopes.
(D) Intensive green roofs can support large shrubs and small trees but require higher structural load-bearing capacity.

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45. Consider the following statements regarding Nature-based Solutions (NbS) for urban challenges:
Statement I: NbS involves actions to protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges effectively.
Statement II: NbS relies exclusively on high-energy, technologically intensive mechanical systems for environmental remediation.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.

impermeable asphalt.

73. Consider the following statements regarding the Patch-Corridor-Matrix model in urban ecological network planning:
I. The matrix is the most extensive and connected landscape element type present.
II. Patches are relatively homogeneous non-linear areas that differ from their surroundings.
III. Corridors are exclusively artificial structures like roads and railways.
IV. Network connectivity is enhanced by stepping-stone patches between larger core areas.
Which of the statements given above are correct?
(A) I and II only
(B) I, II and IV only
(C) II, III and IV only
(D) I, III and IV only

74. The URDPFI guidelines suggest a hierarchical approach to providing urban green spaces. What is the recommended standard for organized green space per capita for a large city?
(A) 1.0 - 1.2 sq.m per capita
(B) 10 - 12 sq.m per capita
(C) 50 - 60 sq.m per capita
(D) 100 - 120 sq.m per capita

75. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): The phenomenon of biotic homogenisation decreases the overall genetic diversity within global urban ecosystems.
Reason (R): Urbanization selectively favors a few highly adaptable "urban exploiter" species, such as pigeons and rats, replacing unique local endemic species.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

76. An urban wildlife corridor is defined as:
(A) A fenced enclosure within a city zoo designed for exotic and endangered species protection.
(B) A linear habitat providing physical connectivity between isolated natural patches in a city.
(C) A major arterial road specifically designated for the seasonal transportation of rural livestock.
(D) A subterranean pipeline used exclusively to transport potable water across wildlife reserves.

77. Match the categories of ecosystem services provided by urban biodiversity in List I with their respective examples in List II.
List I: (Ecosystem Services)
P. Provisioning Services
Q. Regulating Services
R. Cultural Services
S. Supporting Services
List II: (Examples)
1. Soil formation and nutrient cycling
2. Aesthetic inspiration and recreational park use
3. Climate regulation and flood control
4. Urban agriculture yielding fruits and vegetables
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-2, R-3, S-1
(D) P-1, Q-3, R-2, S-4

78. When planning urban expansion in tribal-dominated districts of Madhya Pradesh, which ecological aspect requires critical integration?
(A) Complete eradication of indigenous non-timber forest product (NTFP) yielding species in parks.
(B) Replacement of native mixed forests with monoculture teak plantations for commercial gain.
(C) Preservation of sacred groves (Deogudis) and integration of traditional ecological knowledge.
(D) Banning all tribal communities from accessing any green spaces within the new urban limits.

79. In a scenario where an urban lake has been overrun by water hyacinth and the city planner

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daily peak hours.
(D) The absolute limit of high-rise building density permissible under the city-wide master plan.

27. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): The Consent to Establish (CTE) must be obtained by an industry from the State Pollution Control Board before beginning construction.
Reason (R): CTE ensures that the proposed location and pollution control measures comply with environmental standards before capital investments are made.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

28. Which of the following defines an Environmental Audit?
(A) A legally binding master plan document that dictates zoning regulations for industrial areas.
(B) A documented and objective evaluation of an organization's environmental management system.
(C) A preliminary assessment conducted to estimate the total cost of green infrastructure projects.
(D) The process of calculating the monetary value of natural resources extracted by a municipality.

29. Match the environmental parameters in List I with their primary regulatory standard frameworks in India in List II.
List I: (Environmental Parameters)
P. Ambient Air Quality
Q. Drinking Water Quality
R. Effluent Discharge
S. Ambient Noise Quality
List II: (Regulatory Standards)
1. IS 10500:2012
2. NAAQS 2009
3. Noise Pollution (Regulation and Control) Rules, 2000
4. General Standards for Discharge of Environmental Pollutants (EPA Rules 1986)
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-4, Q-1, R-2, S-3

30. In Madhya Pradesh, the statutory authority responsible for issuing 'Consent to Operate' (CTO) to industries under the Water Act, 1974 and Air Act, 1981 is the:
(A) Madhya Pradesh Urban Development Company (MPUDC)
(B) Directorate of Town and Country Planning (TCP), MP
(C) Madhya Pradesh Pollution Control Board (MPPCB)
(D) Ministry of Environment, Forest and Climate Change, Regional Office Bhopal

31. Arrange the fundamental stages of the Environmental Clearance (EC) process in India in the correct chronological order:
I. Appraisal
II. Scoping
III. Screening
IV. Public Consultation
(A) III, II, IV, I
(B) II, III, I, IV
(C) III, IV, II, I
(D) I, II, III, IV

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32. Identify the INCORRECT statement regarding the National Environment Policy (NEP) 2006.
(A) It recognizes that human beings are at the center of concerns for sustainable development.
(B) It promotes the integration of environmental concerns into all economic and social development plans.
(C) It mandates a complete ban on industrial activities within a 100 km radius of urban centers.
(D) It emphasizes the 'Polluter Pays' principle for effective environmental management strategies.

33. Consider the following statements regarding Green Public Procurement (GPP):

(A) I, II and IV only
(B) I and II only
(C) II, III and IV only
(D) I, II, III and IV

86. The ISO 14001 framework is fundamentally built upon the PDCA cycle. What does PDCA stand for?
(A) Plan, Document, Control, Assess
(B) Prepare, Develop, Check, Act
(C) Prevent, Detect, Correct, Audit
(D) Plan, Do, Check, Act

87. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Corporate Environmental Responsibility (CER) mandates that certain industries allocate a percentage of their project cost towards environmental mitigation and community welfare activities.
Reason (R): CER is intended to address the environmental externalities and localized impacts generated by the specific industrial project.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

88. "Carrying capacity" in the context of urban environmental management is defined as:
(A) The maximum weight a municipal bridge can support without structural failure.
(B) The total financial grant provided by the central government for urban infrastructure.
(C) The maximum number of individuals or level of activity an urban environment can sustain.
(D) The peak hourly flow rate of commuters through a mass transit station during rush hours.

89. Match the Environmental Information System (ENVIS) concept in List I with its characteristic in List II.
List I: (ENVIS Concepts)
P. ENVIS Hubs
Q. ENVIS Resource Partners (RPs)
R. MoEFCC
S. ISBEID
List II: (Characteristics)
1. Apex body hosting the central ENVIS focal point
2. State government departments focusing on state-level environmental status
3. Institutes holding expertise in specific thematic environmental areas
4. Indian State-Level Basic Environmental Information Database
(A) P-2, Q-3, R-1, S-4
(B) P-3, Q-2, R-1, S-4
(C) P-1, Q-2, R-4, S-3
(D) P-2, Q-1, R-3, S-4

90. In Madhya Pradesh, the Madhya Pradesh Urban Development Company (MPUDC) plays a crucial role in environmental management primarily by:
(A) Executing state-funded urban infrastructure projects like sewage treatment and water supply.
(B) Enacting new environmental laws and penal codes for the state of Madhya Pradesh specifically.
(C) Issuing the final environmental clearance for all large-scale mining projects across the state.
(D) Conducting daily ambient air quality monitoring across all villages and rural settlements.

91. A municipality is preparing an Environmental Status Report (ESR) due to a spike in local respiratory diseases. Which data should the planner prioritize analyzing for the ESR?
(A) Groundwater salinity levels and depth of aquifers in the municipal area.
(B) Ambient PM2.5 and PM10 concentrations, and traffic density data over the decade.
(C) The total area of land currently zoned for commercial retail development.
(D) The number of noise complaints related to annual festival celebrations in the city.

92. All of the following are standard parameters for measuring the quality of treated wastewater before discharge, EXCEPT:

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(A) Establishing a "take-make-dispose" industrial system for all city-produced consumer goods.
(B) Importing all building materials from international sources rather than using local alternatives.
(C) Designing consumer goods for intentional rapid obsolescence to stimulate the local economy.
(D) Utilizing treated municipal wastewater for agricultural irrigation and industrial cooling.

119. Identify the correct statement regarding parameters usually evaluated in a Green City Index.
(A) It strictly penalizes cities that invest heavily in public transportation systems and networks.
(B) Parameters cover environmental dimensions, including energy, land, transport, waste, and air.
(C) A city's economic GDP growth rate is the sole indicator used to calculate its Green Index score.
(D) It relies exclusively on subjective resident surveys without any quantitative environmental data.

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120. A town planner is tasked with developing a localized urban sustainability framework for a mid-sized city in Madhya Pradesh. To demonstrate professional competency, the framework should primarily ensure:
(A) The direct copy-pasting of a sustainability framework from a coastal European city without modification.
(B) The absolute exclusion of community participation in the environmental goal-setting process for the city.
(C) A localized approach integrating environmental data tracking with policy targets and ISO standards.
(D) Prioritizing unlimited horizontal urban sprawl to guarantee lower residential densities at the cost of forests.

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and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Establishing wide riparian buffer zones in urban planning reduces the risk of destructive flash floods.
Reason (R): Riparian vegetation provides floodplain storage, slows down the velocity of floodwaters, and enhances infiltration.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

100. A green roof is fundamentally defined as:
(A) A roof painted with green reflective paint to increase albedo and reflect sunlight.
(B) A roof constructed out of recycled green plastic materials for environmental sustainability.
(C) A building roof covered with vegetation and a growing medium over a waterproof membrane.
(D) A traditional pitched roof designed exclusively for historical conservation and aesthetics.

101. Match the Nature-based Solutions (NbS) categories in List I with their urban applications in List II.
List I: (NbS Categories)
P. Type 1 (Minimal intervention)
Q. Type 2 (Management approaches)
R. Type 3 (Creating new ecosystems)
S. Hybrid approaches
List II: (Urban Applications)
1. Designing entirely new constructed wetlands in a concrete urban plaza
2. Protecting existing ancient remnant forests in the urban periphery
3. Combining engineered gray infrastructure with green bioswales
4. Restoring degraded urban lakes to improve their ecological function
(A) P-2, Q-4, R-1, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-3, R-4, S-1

102. Under the Smart Cities Mission in Madhya Pradesh, cities like Ujjain and Bhopal have heavily invested in which specific blue-green infrastructure component?
(A) Deep sea port expansions and maritime logistics centers near city centers.
(B) Construction of massive thermal power plants near sensitive local water bodies.
(C) Sealing off urban lakes to create dedicated industrial economic zones for growth.
(D) Lakefront and riverfront ecological restorations with non-motorized transport corridors.

103. If a town planner is retrofitting a high-density street known for severe waterlogging, which is the most viable blue-green infrastructure intervention?
(A) Constructing a large, 50-acre detention basin in the center of the narrow commercial street.
(B) Replacing continuous concrete curbs with cuts leading into linear bioswales and tree trenches.
(C) Demolishing commercial buildings to recreate the historical river path through the city core.
(D) Raising the road level by 2 meters using impermeable asphalt to prevent local water entry.

104. All of the following are ecological benefits of restoring urban wetlands for flood management, EXCEPT:
(A) Groundwater recharge enhancement.
(B) Trapping of sediments and removal of nutrients from urban runoff.
(C) Significant acceleration of runoff velocity into downstream bottlenecks.
(D) Provision of habitats for migratory birds and local amphibians.

105. Consider the following statements regarding permeable pavements:
Statement I: Permeable pavements allow stormwater to infiltrate through the surface into the underlying soil, reducing surface runoff.
Statement II: They are highly recommended for heavy-duty highways with high-speed, heavy commercial truck traffic due to their superior structural load-bearing capacity over

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within a 100-meter radius of these institutions, rather than a larger 500-meter radius.

9. (A) Statement I is correct, and Statement II is incorrect.
Skyglow refers to the artificial brightening of the night sky caused by light scattering off atmospheric particles. This phenomenon affects visibility and celestial observations. While light pollution impacts bird migration, it also significantly disrupts nocturnal mammals and aquatic life. Therefore, the effects of ecological light pollution extend far beyond avian species to involve a wide range of biological organisms.

10. (A) Orienting continuous, wide greenways parallel to the prevailing local wind directions.
Establishing natural ventilation corridors is essential for reducing air stagnation and heat accumulation in cities. By aligning continuous, wide greenways or major streets parallel to the prevailing local wind directions, planners can facilitate the free flow of air. This strategy promotes the effective dispersal of pollutants and enhances the cooling capacity of the urban environment through improved wind penetration.

11. (B) Carbon sink — Preserved urban wetlands and peatlands
Urban wetlands and peatlands function as critical carbon sinks by capturing and storing atmospheric carbon in organic matter and soil. While afforestation also sequesters carbon, preserved ecosystems provide long-term storage. Conversely, activities like waste incineration and traditional cement manufacturing act as major carbon sources due to the release of greenhouse gases during combustion and chemical production processes.

12. (B) Development of a networked system of bioswales, rain gardens, and permeable pavements.
Enhancing groundwater recharge in built-up areas requires moving away from conventional drainage toward nature-based solutions. Systems like bioswales, rain gardens, and permeable pavements facilitate the localized infiltration of rainwater into the ground. These methods slow down runoff and allow soil to filter and absorb moisture, which is particularly effective in watersheds dominated by impervious surfaces and cohesive soils.

13. (B) I, III and IV only
Urban wildlife corridors provide essential connectivity between fragmented habitat patches, preventing genetic isolation of animal populations. These corridors do not need to be dense forests; linear parks and riparian buffers serve as effective paths. They facilitate the movement of various flora and fauna across the urban matrix, maintaining ecological balance and supporting biodiversity within human-dominated landscapes.

14. (C) The process where unique local native species are replaced by widespread, generic or invasive species.
Biotic homogenisation is a process where the unique biological diversity of a region is lost as native species are replaced by a few widespread, adaptable species. Urban environments often favor generalist or invasive organisms that thrive in disturbed habitats. This leads to ecological landscapes becoming increasingly similar across different cities, reducing global biodiversity and weakening local ecosystem resilience.

15. (A) Both A and R are true and R is the correct explanation of A.
Invasive alien species often dominate urban environments because they lack natural predators and exhibit high adaptability to human-disturbed habitats. These species possess rapid reproductive capabilities and can utilize available resources more efficiently than native flora and fauna. Consequently, they outcompete local species, leading to significant changes in ecosystem structure and a decline in the diversity of indigenous communities.

16. (B) 12-18% of the area
The Urban and Regional Development Plans Formulation and Implementation guidelines provide specific benchmarks for sustainable development. For green cover within the developed area of a city, the recommended range is twelve to eighteen percent. Maintaining this level of vegetation is crucial for mitigating the heat island effect, managing stormwater runoff, and providing recreational and aesthetic benefits to populations.

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explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

112. The term "Urban Ecological Footprint" refers to:
(A) The physical footprint of all buildings on the ground in a city.
(B) The carbon emissions produced exclusively by the urban transportation sector.
(C) The productive land and water area required to produce resources and assimilate city wastes.
(D) The map of walking and cycling trails within an urban park system for local residents.

113. Match the urban metabolism concepts in List I with their defining descriptions in List II.
List I: (Metabolism Concepts)
P. Linear Metabolism
Q. Circular Metabolism
R. Inputs
S. Outputs
List II: (Descriptions)
1. High resource consumption followed by high waste generation and disposal
2. Maximizing recycling, reuse, and resource recovery within the city
3. Solid waste, wastewater, and greenhouse gas emissions
4. Energy, water, food, and raw construction materials entering the city
(A) P-1, Q-2, R-4, S-3
(B) P-2, Q-1, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-1, Q-2, R-3, S-4

114. Under the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh, which of the following aligns best with environmental sustainability goals?
(A) Expanding massive open landfills for waste disposal.
(B) Subsidizing private diesel-powered vehicles for residents.
(C) Filling of historical step-wells for land monetization.
(D) Development of decentralized wastewater systems and green spaces.

115. In drafting an Air Quality Action Plan for a non-attainment city in MP heavily polluted by resuspended road dust and vehicular emissions, which specific action step aligns with the National Clean Air Programme (NCAP) guidelines?
(A) End-to-end paving of unpaved roads, mechanical sweeping, and promoting public transit systems.
(B) Banning all non-motorized transport (bicycles/pedestrians) to clear roads for faster car movement.
(C) Encouraging the open burning of municipal solid waste to reduce landfill volume.
(D) Mandating that all industries increase their stack heights without installing scrubbers.

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116. While Zero Liquid Discharge (ZLD) systems are highly effective for industrial water conservation, a primary limitation or negative trade-off of ZLD is:
(A) It increases the volume of freshwater the industry must extract from the ground.
(B) It causes toxic effluents to be dumped directly into municipal sewers for treatment.
(C) It is energy-intensive, leading to significant greenhouse gas emissions if fossil-powered.
(D) It prevents the reuse of water within the industrial process for manufacturing tasks.

117. Consider the following statements regarding the National Clean Air Programme (NCAP):
Statement I: NCAP aims for a national-level target of 20% to 30% reduction in PM2.5 and PM10 concentrations by 2024 (revised to 2026), keeping 2017 as the base year for comparison.
Statement II: NCAP focuses exclusively on rural air pollution and excludes major metropolitan cities from its framework.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

118. A city aims to apply the concept of circular metabolism to reduce its resource consumption patterns. Which practical application achieves this?

(A) Biochemical Oxygen Demand (BOD)
(B) Ambient Decibel Level (dB)
(C) Total Suspended Solids (TSS)
(D) Chemical Oxygen Demand (COD)

93. Consider the following statements regarding Green Public Procurement (GPP):
Statement I: GPP encourages government agencies to purchase products with high energy efficiency, such as LED streetlights.
Statement II: GPP strictly ignores the lifecycle cost of a product and bases decisions entirely on the lowest initial purchase price.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

94. A city environmental manager must ensure compliance monitoring for an industrial cluster. Which application of methodology represents the best practice?
(A) Relying on self-reported, unverified data submitted voluntarily by the industries every five years.
(B) Conducting inspections only when pre-announced a month in advance to all industrial units.
(C) Implementing a continuous real-time effluent and emission monitoring system for the PCB.
(D) Monitoring only the aesthetic appearance of the industrial perimeter wall and surrounding gate.

95. Identify the correct statement regarding the National Environment Policy (NEP) 2006.
(A) It calls for the abolition of all environmental clearance processes to boost ease of doing business.
(B) It states that wildlife conservation is solely the responsibility of private NGOs and citizens.
(C) It recommends the unlimited extraction of groundwater for industrial use to support development.
(D) It recognizes the principle of 'Intra-generational equity' for equitable access to resources.

96. When a planner conducts an urban carrying capacity analysis regarding water supply, the competency requires calculating:
(A) The aesthetic value of historical water fountains located throughout the city.
(B) The cost of imported bottled water for high-income neighborhoods and commercial zones.
(C) The balance between sustainable yield of regional sources against projected per capita demand.
(D) The volume of rainwater that flows directly into the ocean uncaptured during monsoon seasons.

97. Consider the following strategies regarding the implementation of the "Sponge City" model:
I. Extensive use of permeable paving in parking lots and minor streets.
II. Construction of interconnected urban wetlands and retention ponds.
III. Complete canalization of urban streams with steep concrete banks.
IV. Implementation of green roofs on large public and commercial buildings.
Which of the statements given above are correct?
(A) I, II and IV only
(B) II, III and IV only
(C) I and III only
(D) I, II, III and IV

98. Which of the following best defines a "rain garden"?
(A) A botanical garden enclosed in a massive glass greenhouse for exotic plant species.
(B) A commercial agricultural plot that relies on monsoon rains without any irrigation system.
(C) An underground concrete vault used to store rainwater for industrial cooling and use.
(D) A vegetated depression designed to capture and infiltrate stormwater runoff from city surfaces.

99. Direction: The following question consists of two statements, one labeled as Assertion (A)

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ANSWERS

1. (B) I, II and IV only
The Urban Heat Island effect stems from the conversion of natural landscapes into dense urban surfaces like concrete and asphalt, which absorb and retain heat. Anthropogenic sources such as vehicle exhaust and cooling systems further intensify temperatures. Mitigation strategies involve increasing albedo through reflective materials and vegetation to reduce heat absorption and improve city-wide thermal comfort.

2. (D) It increases the peak discharge and decreases the time to peak.
Impervious surfaces prevent natural infiltration of rainwater into the soil, leading to rapid surface runoff. This process significantly increases the volume and velocity of water reaching drainage channels. Consequently, the hydrological response shows a much higher peak discharge and a shorter time to peak, increasing the risk of flash flooding within urbanized catchments during heavy rainfall events.

3. (A) Both A and R are true and R is the correct explanation of A.
Extensive soil sealing through paving and construction creates a physical barrier between the atmosphere and the earth. This barrier prevents essential water infiltration and gas exchange processes required for soil health. As a result, soil-dwelling organisms lose their habitats, leading to a decline in local biodiversity and the overall ecological health of urban environments due to lost connectivity.

4. (C) The network of physical infrastructure, climate, soil, water, and atmospheric gases in a city.
Abiotic components of an urban ecosystem encompass the non-living chemical and physical elements that shape the environment. These include the climate, soil characteristics, water bodies, atmospheric gases, and the built infrastructure. These factors interact with biological communities to influence the distribution and survival of various species within the complex and significantly modified landscape setting of modern urban centers.

5. (A) P-3, Q-4, R-1, S-2
Urban air quality is influenced by specific pollutants linked to distinct activities. Nitrogen oxides primarily originate from high-temperature vehicular combustion. Sulphur dioxide is largely emitted from coal-burning power plants. Particulate matter often arises from construction dust and road activities, while volatile organic compounds are released through solvent usage and fuel evaporation during industrial or domestic processes in cities.

6. (D) Bhopal
Bhopal is renowned for its large central water bodies, particularly the Bhoj Wetland, which is a designated Ramsar site. These massive water masses significantly regulate the local urban microclimate by providing cooling effects through evaporation and moisture exchange. The wetland acts as a thermal buffer, influencing temperature variations and supporting a unique ecological balance within the city limits.

7. (A) II, IV, I, III
India has established a structured legal framework for environmental protection over several decades. The Water Act was enacted in 1974, followed by the Air Act in 1981. The comprehensive Environment Protection Act was introduced in 1986 following the Bhopal tragedy. Finally, the National Environment Policy was formulated in 2006 to provide a modern, integrated approach to sustainability.

8. (C) Silence zones are defined as areas within a 500-meter radius of hospitals and educational sites.
Ambient noise standards in India specify permissible limits based on land use and time. Residential areas have a daytime limit of 55 decibels, while commercial zones are restricted to 55 decibels at night. Silence zones, which include hospitals and schools, are strictly defined as areas

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conventional asphalt.
Which of the following is correct?
(A) Statement I is correct, and Statement II is incorrect.
(B) Statement I is incorrect, and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

106. A planner applies the guidelines of AMRUT 2.0 regarding water body rejuvenation. What is the expected outcome of such a project application?
(A) Improvement of urban aquifer recharge, restoration of storage, and creation of public spaces.
(B) Complete elimination of the water body to construct an underground parking lot for cars.
(C) Transformation of the lake into a primary disposal site for untreated municipal sewage.
(D) Privatization of the water body strictly for commercial aquaculture without public access.

107. Identify the correct statement regarding Blue-Green Infrastructure (BGI) integration.
(A) BGI is strictly an aesthetic landscape add-on and has no quantifiable engineering value in stormwater management.
(B) BGI relies on breaking down silos between urban planning, hydrology, landscape architecture, and ecology.
(C) BGI fundamentally opposes the planting of trees in urban areas to maintain clear pedestrian visibility.
(D) BGI implies painting traditional concrete storm drains in blue and green colors for aesthetic recognition.

108. When sizing a green infrastructure intervention like a rain garden, a competent planner must fundamentally calculate:
(A) The total number of parking spaces desired by local shop owners and commercial developers.
(B) The catchment area, the design storm rainfall depth, and the infiltration rate of the soil.
(C) The maximum height of adjacent commercial buildings to prevent shadows on the rain garden.
(D) The historical real estate price index of the neighborhood for fiscal impact analysis studies.

109. Consider the following parameters:
I. Fine particulate matter (PM2.5) concentration
II. Percentage of city population with regular solid waste collection
III. Number of personal luxury vehicles owned per capita
IV. Green area per 100,000 population
Which of the above are standard indicators included in ISO 37120 for sustainable cities?
(A) I, II and IV only
(B) II, III and IV only
(C) I and II only
(D) I, II, III and IV

110. Material Flow Analysis (MFA) in an urban context is primarily a quantitative procedure used to determine:
(A) The flow of traffic through a network of urban highways and major city intersections.
(B) The movement of financial capital between urban municipal wards and government districts.
(C) The mass and energy balances of materials entering, accumulating, and exiting the city.
(D) The demographic migration patterns from rural to urban areas over a specific time period.

111. Direction: The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below.
Assertion (A): Water Sensitive Urban Design (WSUD) encourages the decentralized management of stormwater close to its source.
Reason (R): Decentralized management mimics the natural hydrological cycle, reduces the burden on centralized infrastructure, and mitigates localized flooding.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct

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17. (A) P-3, Q-4, R-1, S-2
Ecological networks consist of core patches that provide primary habitats, and corridors that link these patches to facilitate species movement. The matrix represents the dominant surrounding land use where these elements are located. Buffers are transitional zones designed to protect sensitive core areas from urban disturbances, ensuring the long-term viability and connectivity of the city's biological systems.

18. (D) Van Vihar National Park
Van Vihar National Park is uniquely situated within the city limits of Bhopal, serving as a vital green lung and biodiversity hotspot. It functions as both a protected area and an ex-situ conservation center, housing various wildlife species in near-natural habitats. This integration of a national park into an urban setting highlights Bhopal's commitment to preserving ecological heritage.

19. (A) II, III, I, IV
Assessing urban biodiversity using the Singapore Index involves a logical sequence of steps. First, the geographical boundaries of the city must be clearly defined. Next, baseline data regarding native species and ecosystem services is gathered. This is followed by the calculation of individual indicator scores. Finally, these scores are aggregated to establish a comprehensive baseline index for the city.

20. (C) Urban forests completely eliminate the need for engineered gray infrastructure for flood control.
Urban forests provide significant ecosystem services, including carbon sequestration, temperature reduction, and stormwater interception. While they help mitigate runoff, they cannot completely replace engineered gray infrastructure, especially during extreme weather events. Instead, an integrated approach combining green and gray systems is necessary for effective flood control and sustainable water management within the complex hydrological environment of modern cities.

21. (A) Statement I is correct, and Statement II is incorrect.
Provisioning services in urban areas involve tangible products like food from gardens and freshwater supply. Regulating services, however, focus on natural processes such as climate regulation, flood control, and water purification. While recreation and aesthetics are valuable, they fall under the category of cultural services rather than regulating services, which manage the fundamental ecological balances of the environment.

22. (D) Low-impact eco-tourism facilities and low-density residential zoning with high green cover.
Buffer zones are intended to minimize human impact on sensitive core habitats. Therefore, development in these areas should be limited to low-impact activities. Options such as eco-tourism facilities and low-density residential zoning with significant green cover are appropriate. These uses provide a gradual transition between the protected ecosystem and the urban core, preserving environmental integrity while allowing limited use.

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23. (B) Invasive Species — Prosopis juliflora
Prosopis juliflora is a well-known invasive species in India that often displaces native vegetation due to its high adaptability and rapid spread. In contrast, Azadirachta indica, or Neem, is a native species with significant ecological value. Identifying these differences is crucial for urban biodiversity management, as invasive plants can disrupt local ecosystems and reduce the diversity of indigenous species.

24. (C) To reduce food miles, enhance local nutrient recycling, and provide urban green spaces.
The primary ecological benefit of urban agriculture is the reduction of food miles, which lowers the carbon footprint associated with transporting produce. It also promotes the recycling of organic waste into nutrients and increases the amount of green space in the city. These factors contribute to improved local food security, enhanced biodiversity, and the overall sustainability of the urban metabolism.

25. (A) I and III only
ISO 14001 provides a standardized framework for establishing an effective environmental management system based on the Plan-Do-Check-Act cycle. It does not guarantee immediate impact reduction but focuses on continuous improvement. Furthermore, it does

not set universal performance criteria; instead, it allows organizations to define their own goals and processes to manage environmental responsibilities within their operations.

26. (A) The maximum population and economic activity an urban environment can sustain without damage.
Carrying capacity analysis determines the maximum level of population and economic activity that an urban environment can support without causing irreversible environmental degradation. It evaluates the availability of natural resources and the city's ability to assimilate waste. This analysis is fundamental for sustainable planning, ensuring that growth does not exceed the ecological limits of the local and regional environment.

27. (A) Both A and R are true and R is the correct explanation of A.
The Consent to Establish is a mandatory regulatory requirement that industries must obtain from the State Pollution Control Board before starting construction. This step ensures that the proposed project's location and planned pollution control measures meet environmental standards. By securing this consent early, companies can avoid making capital investments in projects that might later be non-compliant.

28. (B) A documented and objective evaluation of an organization's environmental management system.
An environmental audit is a systematic and objective evaluation of how well an organization is managing its environmental impacts and complying with relevant regulations. It involves reviewing the management system to identify areas of non-compliance and opportunities for improvement. This process helps ensure that environmental policies are being implemented effectively and that the organization remains accountable for its performance.

29. (A) P-2, Q-1, R-4, S-3
India utilizes various standards to regulate environmental quality. Ambient air is monitored against the National Ambient Air Quality Standards. Drinking water quality is defined by the IS 10500 code. Industrial effluent discharge must comply with the general standards under the Environment Protection Rules, while ambient noise is regulated by the specific Noise Pollution Rules established in the year 2000.

30. (C) Madhya Pradesh Pollution Control Board (MPPCB)
The Madhya Pradesh Pollution Control Board is the statutory authority responsible for environmental regulation within the state. Under the Water and Air Acts, it is empowered to issue the 'Consent to Operate' to industrial units. This certificate confirms that the industry has installed the necessary pollution control equipment and is operating in compliance with the established environmental discharge standards.

31. (A) III, II, IV, I
The Environmental Clearance process in India follows a specific sequence. It begins with screening to determine if a project requires a full assessment. Next is scoping to define the terms of reference. Public consultation is then conducted to gather feedback from local communities. Finally, the appraisal stage involves a detailed technical review by the expert committee before approval.

32. (C) It mandates a complete ban on industrial activities within a 100 km radius of urban centers.
The National Environment Policy of 2006 focuses on sustainable development and the integration of environmental concerns into economic planning. It emphasizes the polluter-pays principle and human-centric conservation. However, it does not mandate a blanket ban on industrial activities within a hundred-kilometer radius of urban centers. Such a restriction would be impractical for economic development and is not policy.

33. (A) Statement I is correct, and Statement II is incorrect.
Green Public Procurement involves public authorities purchasing goods and services that have a reduced environmental impact throughout their lifecycle. This process encourages the market for sustainable products like energy-efficient lighting. However, it does not prohibit the consideration of financial costs. Instead, it promotes evaluating the total cost of ownership, including operational expenses, alongside the initial purchase price.

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34. (D) Consent to Operate (CTO)
Once the construction of an industrial plant is complete, the owner must apply for a Consent to Operate before starting production. This regulatory mechanism ensures that the facility's pollution control systems are functional and ready to handle effluents and emissions. It is a mandatory requirement under the Water and Air Acts to ensure ongoing compliance with environmental protection.

35. (A) ENVIS — Environmental Information System network established by the MoEFCC
The Environmental Information System is a decentralized network established by the Ministry of Environment, Forest and Climate Change. Its purpose is to collect, collate, and disseminate environmental information to researchers, policy makers, and the public. Other abbreviations like AQI refer to the Air Quality Index, while CPCB stands for the Central Pollution Control Board, each serving distinct functions.

36. (C) To provide a comprehensive overview of environmental conditions to inform policy.
The primary objective of a State of Environment Report is to provide a detailed and comprehensive assessment of current environmental conditions. By analyzing trends in air, water, land, and biodiversity, the report helps policy makers identify critical issues and develop informed strategies for management. It serves as a vital tool for tracking progress toward sustainability goals at the municipal level.

37. (B) I, III and IV only
Blue-green infrastructure integrates water management with ecological networks to enhance urban resilience. These systems manage stormwater while providing ecological and social benefits, such as parks that double as detention basins. BGI does not require the complete removal of gray infrastructure; rather, it works in tandem with existing systems to improve their efficiency and reduce the risk of flooding.

38. (D) Retain, clean, and percolate rainwater naturally using ecologically sensitive infrastructure.
The Sponge City concept focuses on managing urban water by mimicking natural processes. Instead of relying solely on pipes to drain water away, it uses ecologically sensitive infrastructure to retain, clean, and percolate rainwater into the ground. This approach reduces flood risks, replenishes groundwater, and improves the local environment by integrating green spaces and permeable surfaces into landscapes.

39. (A) Both A and R are true and R is the correct explanation of A.
Riparian buffer zones consist of vegetated areas along the banks of rivers and streams. These buffers significantly improve water quality by filtering out pollutants from surface runoff before they reach the water body. Additionally, the root systems of the vegetation stabilize the soil, preventing bank erosion and reducing the amount of sediment that enters and degrades aquatic ecosystems.

40. (C) A shallow, vegetated landscape depression designed to capture and treat stormwater runoff.
A bioswale is a shallow, linear landscape depression designed to capture and treat stormwater runoff from impervious surfaces like roads and parking lots. The vegetation and soil within the swale slow down the water, allowing it to infiltrate the ground while filtering out pollutants. This nature-based solution helps manage runoff volume and improves water quality in urbanized watersheds.

41. (A) P-2, Q-4, R-3, S-1
Different blue-green infrastructure elements serve specific hydrological roles. Permeable pavements facilitate infiltration on ground surfaces. Green roofs reduce peak runoff from buildings and provide thermal insulation. Constructed wetlands offer large-scale biological treatment for contaminated water. Rain barrels are used for localized rainwater harvesting at the household level, helping to conserve water and reduce the immediate demand on municipal systems.

42. (A) The rejuvenation and restoration of urban water bodies and step-wells (baolis).
The AMRUT 2.0 mission emphasizes the rejuvenation of urban water bodies, including traditional step-wells or baolis, in Indian cities. This component aims to restore the natural storage capacity of these structures, improve groundwater recharge, and enhance the aesthetic

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the overall health of populations, preventing isolation in fragmented environments.

77. (A) P-4, Q-3, R-2, S-1
Ecosystem services are categorized based on their function. Provisioning services provide tangible goods like fruits from urban agriculture. Regulating services manage environmental processes like flood control. Cultural services offer non-material benefits such as aesthetics and recreation. Supporting services are the underlying processes, like soil formation and nutrient cycling, necessary for the production of all other ecosystem services in the city.

78. (C) Preservation of sacred groves (Deogudis) and integration of traditional ecological knowledge.
Urban expansion in tribal-dominated districts should integrate the preservation of sacred groves, known as Deogudis. These areas are important for biodiversity and hold significant cultural value for local communities. Incorporating traditional ecological knowledge into planning ensures that the development is culturally sensitive and maintains the unique ecological balance managed by indigenous people for generations within the expanding urban grid.

79. (D) Mechanically removing the invasive weed while stopping the untreated sewage inflow.
To restore a lake overrun by invasive water hyacinth, the most ecologically sound approach is to mechanically remove the weed while addressing the root cause. Often, these weeds thrive due to the high nutrient levels provided by untreated sewage. By stopping the sewage inflow, the nutrient load is reduced, preventing rapid regrowth and allowing native biodiversity to recover in cleaner water.

80. (C) Specialized and narrow diet and habitat requirements.
Invasive alien species are typically characterized by rapid growth, high reproductive rates, and excellent dispersal abilities. They are generalists with broad environmental tolerances, allowing them to adapt to the various disturbed habitats found in cities. Unlike native specialists, they do not have narrow requirements. This phenotypic plasticity and lack of specialized needs enable them to thrive and outcompete indigenous species.

81. (C) Both Statement I and Statement II are correct.
Urban microbiota consists of the diverse communities of microorganisms found throughout the city. Exposure to this environmental diversity is crucial for human health. Research suggests that the reduced contact with diverse microbiota in heavily concretized urban areas is linked to an increase in immune-related disorders and allergies. Therefore, maintaining healthy, biodiverse soils and green spaces is essential for public health.

82. (D) Act as biodiversity anchors preserving the original regional flora and soil microbial life.
Remnant forests are patches of original vegetation that have survived within the urban grid. Preserving these areas serves as a primary ecological strategy to act as biodiversity anchors. They harbor the original regional flora and soil microbial life that might otherwise be lost during development. These forests provide stable habitats, support local wildlife, and offer valuable insights into historical ecological states.

83. (A) The Singapore Index groups indicators into native biodiversity, ecosystem services, and governance.
The Singapore Index, also known as the City Biodiversity Index, is a comprehensive tool that uses quantitative indicators to evaluate urban biodiversity. It organizes these metrics into three main components: native biodiversity, ecosystem services, and governance. This approach allows cities to track their performance, share best practices, and develop targeted strategies to enhance biological assets and the benefits they provide.

84. (C) Creating a gradient where high-impact activities are furthest away and low-impact nature trails are adjacent.
Effective ecological buffer zoning involves creating a gradient of human activity. The area closest to the sensitive core should be restricted to very low-impact uses, such as nature trails. As one moves further from the core, higher-impact activities can be permitted. This transitional zone protects the core from the direct disturbances of the urban center, such as noise and pollution.

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51. (C) A is true but R is false.
Implementing Zero Liquid Discharge systems in industrial areas ensures that no untreated wastewater is released into the environment, as the water is recycled and solids are recovered. However, these systems do not rely solely on natural evaporation in lagoons. Instead, they typically use advanced mechanical processes like membrane filtration and thermal evaporation to achieve a complete closed-loop water cycle.

52. (C) Integrates the urban water cycle and land management into design to reduce environmental impacts.
Water Sensitive Urban Design is an integrated approach that combines urban water cycle management with land use planning and design. It aims to minimize the environmental impact of urban development by protecting natural water systems and incorporating sustainable drainage. By managing water at the source and integrating it into the city fabric, WSUD enhances resilience and creates public spaces.

53. (A) P-2, Q-1, R-4, S-3
Different ISO standards address various aspects of organizational and urban management. ISO 14001 focuses on environmental management systems, while ISO 37120 provides standardized indicators for sustainable cities. ISO 9001 is the global benchmark for quality management systems, and ISO 50001 sets requirements for energy management systems. These standards help cities improve performance through consistent, internationally recognized frameworks.

54. (D) Indore
Indore has emerged as a leader in urban environmental sustainability in India, consistently ranking first in the Swachh Survekshan cleanliness surveys. The city has successfully implemented comprehensive waste management systems and a Clean Air Action Plan. Its focus on improving air quality and sanitation infrastructure serves as a model for other metropolitan areas seeking to enhance their environmental performance and well-being.

55. (A) II, I, III, IV
The implementation of the National Clean Air Programme at the city level begins with identifying non-attainment cities based on air quality data. This is followed by source apportionment and emission inventory studies to understand pollution causes. Specific mitigation actions, such as road paving and promoting electric vehicles, are then implemented. Finally, continuous monitoring and reviews are conducted to track progress.

56. (C) It exclusively focuses on measuring the atmospheric concentration of greenhouse gases.
Material Flow Analysis is a comprehensive tool used to quantify the flow of all materials, including water, food, and raw materials, within an urban system. It tracks how these substances enter the city, accumulate, and eventually leave as waste or emissions. It is essential for planning a circular economy. It does not focus exclusively on greenhouse gases, although these are included.

57. (A) Statement I is correct, and Statement II is incorrect.
The Green City Index benchmarks cities based on quantitative indicators across categories like energy, waste, and air quality. While it measures environmental performance effectively, a high score does not guarantee the absence of social issues like poverty or economic inequality. Sustainability involves environmental, social, and economic pillars, and the index primarily focuses on the ecological dimension of a city's performance.

58. (A) Promoting transit-oriented development and active mobility walking/cycling corridors.
To effectively reduce its urban ecological footprint, a municipality should focus on reducing resource consumption and waste. Promoting transit-oriented development and active mobility, such as walking and cycling, reduces the reliance on fossil-fuel-powered personal vehicles. This intervention lowers carbon emissions, improves energy efficiency, and optimizes land use, contributing significantly to a more sustainable and less resource-intensive urban environment.

59. (B) Non-attainment cities — Cities failing to meet the National Ambient Air Quality Standards
The National Clean Air Programme uses the term "non-attainment cities" to describe urban areas that consistently fail to meet the National Ambient Air Quality Standards. The programme

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waste collection, and the amount of green area per population. While transportation is covered, the number of personal luxury vehicles is not a standard indicator for sustainability.

110. (C) The mass and energy balances of materials entering, accumulating, and exiting the city.
Material Flow Analysis is a quantitative procedure used to determine the mass and energy balances of an urban system. It accounts for all materials that enter the city, how they are stored or transformed, and how they eventually leave as products or waste. This comprehensive accounting allows planners to identify inefficiencies and develop strategies for resource conservation and waste.

111. (A) Both A and R are true and R is the correct explanation of A.
Water Sensitive Urban Design promotes managing stormwater at or near its source through decentralized systems like rain gardens and permeable surfaces. This approach mimics the natural hydrological cycle by encouraging infiltration and evaporation. By reducing the volume of water that enters the centralized drainage network, decentralized management helps mitigate localized flooding and lessens the overall burden on city infrastructure.

112. (C) The productive land and water area required to produce resources and assimilate city wastes.
The urban ecological footprint is a measure of the total area of biologically productive land and water required to produce the resources consumed and to assimilate the waste generated by a city. It provides a way to quantify the environmental impact of a city, showing how much regenerative capacity it uses. Reducing this footprint is a key sustainability goal.

113. (A) P-1, Q-2, R-4, S-3
Urban metabolism describes how cities process resources. A linear metabolism is characterized by high consumption and waste, while a circular metabolism focuses on maximizing recycling. Inputs into the city include energy, water, food, and materials. Outputs consist of waste streams, such as solid waste, wastewater, and greenhouse gases. Transitioning from linear to circular flows is essential for sustainable environments.

114. (D) Development of decentralized wastewater systems and green spaces.
Projects funded under the Chief Minister Urban Infrastructure Development Scheme align best with environmental goals when they focus on sustainable infrastructure. This includes developing decentralized wastewater systems that treat water locally for reuse and creating more green spaces. These types of projects help manage resources more efficiently, reduce urban pollution, and provide valuable ecological and social benefits to the urban community.

115. (A) End-to-end paving of unpaved roads, mechanical sweeping, and promoting public transit systems.
For a non-attainment city struggling with road dust and vehicular emissions, an effective action plan based on NCAP guidelines would focus on several key areas. Paving unpaved road surfaces and using mechanical sweepers significantly reduces the amount of resuspended dust in the air. Promoting public transit systems helps lower the number of private vehicles on the road, reducing overall emissions.

116. (C) It is energy-intensive, leading to significant greenhouse gas emissions if fossil-powered.
While Zero Liquid Discharge systems are highly effective for conserving water and preventing effluent discharge, they have a significant trade-off. Achieving ZLD requires advanced processes like thermal evaporation, which are very energy-intensive. If this energy is sourced from fossil fuels, the system can lead to substantial greenhouse gas emissions. Therefore, the environmental benefits of water conservation must be balanced.

117. (A) Statement I is correct, and Statement II is incorrect.
The National Clean Air Programme aims for a 20% to 30% reduction in particulate matter concentrations by 2024, later revised to 40% by 2026, using 2017 as the base year. Contrary to the idea that it excludes large cities, the programme's primary focus is on over a hundred non-attainment cities across India, including major metropolitan centers.

68. (C) Expanding the area of dark asphalt parking lots.
Mitigating the Urban Heat Island effect involves reducing the amount of heat absorbed by city surfaces. Increasing the tree canopy, using reflective roofing, and implementing green roofs are all effective strategies. Conversely, expanding dark asphalt surfaces, which have low albedo and high thermal mass, absorbs more solar radiation and worsens the heat island effect by further increasing ambient temperatures.

69. (C) Both Statement I and Statement II are correct.
High percentages of impervious surfaces in cities significantly alter the natural water cycle. They prevent infiltration, which decreases the base flow of urban streams during dry weather by reducing groundwater contributions. During rain, these surfaces facilitate the rapid accumulation and flushing of non-point source pollutants into local water bodies. This leads to both hydrological imbalances and increased pollution levels.

70. (D) Establishing dense stands of long-lived native tree species with undisturbed deep soil profiles.
To maximize long-term carbon sequestration in urban parks, planners should focus on establishing dense stands of native, long-lived tree species. These trees capture atmospheric carbon in their biomass and promote the accumulation of organic carbon in the soil. Maintaining undisturbed soil profiles is also critical, as tilling releases stored carbon. This approach ensures a stable and durable carbon sink.

71. (B) They mitigate the heat island effect and disperse pollutants by allowing wind penetration.
Natural ventilation corridors are strategic open spaces designed to allow prevailing winds to penetrate deep into the urban fabric. These corridors help mitigate the heat island effect by removing hot air and reducing ambient temperatures. Furthermore, they facilitate the dispersal of air pollutants, improving the overall air quality of the city. Effective design requires maintaining unobstructed paths for wind flow.

72. (C) Sandy loam soils under a maintained urban parkland.
The potential for natural groundwater recharge depends on both soil permeability and land use. Sandy loam soils have high infiltration rates due to their coarse texture, and maintained parklands provide an unpaved, vegetated surface that allows water to soak into the ground. In contrast, heavy clays or bedrock restrict water movement, and impermeable surfaces prevent water from ever reaching the soil.

73. (B) I, II and IV only
In urban ecological planning, the matrix is the dominant land use type that surrounds other elements. Patches are discrete, non-linear areas of habitat that differ from the matrix. Corridors are linear elements that provide connectivity. Network connectivity is further enhanced by stepping-stone patches, which provide smaller habitat links between larger core areas for moving species within the fragmented city landscape.

74. (B) 10 - 12 sq.m per capita
The Urban and Regional Development Plans Formulation and Implementation guidelines recommend a hierarchical standard for organized green spaces in large cities. The suggested benchmark is between ten and twelve square meters per capita. Providing this level of green space is essential for ensuring that urban residents have adequate access to parks, which contribute to improved mental health and environmental quality.

75. (A) Both A and R are true and R is the correct explanation of A.
Biotic homogenisation results in a decrease in genetic and species diversity across global urban areas. This occurs because urbanization creates similar environments that selectively favor a small group of highly adaptable species, often called urban exploiters. As common species like pigeons thrive and spread, they replace unique local endemics, making the biological makeup of cities increasingly uniform and less resilient.

76. (B) A linear habitat providing physical connectivity between isolated natural patches in a city.
An urban wildlife corridor is a linear strip of habitat that provides physical connectivity between isolated natural areas or habitat patches within a city. These corridors allow animals to move safely through the urban landscape to find food and mates. By facilitating species movement, corridors help maintain genetic diversity and

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and ecological value of urban spaces. Such projects are critical for ensuring water security and building resilience against climate-related water stress.

43. (A) II, IV, I, III
Urban stormwater management has evolved from simple gray infrastructure designed for rapid water conveyance to more sophisticated, nature-based approaches. This transition moved through detention-based management and water-sensitive design before reaching current paradigms like the Sponge City model. Modern strategies prioritize the integration of natural processes to manage water volume and quality, moving away from purely engineered drainage systems.

44. (B) Green roofs significantly increase the total volume and peak flow rate of stormwater runoff from a building.
Green roofs and walls are effective tools for managing the urban environment. Extensive roofs are low-maintenance, while intensive roofs support larger plants but require more structural support. Crucially, green roofs significantly decrease, rather than increase, the volume and peak flow rate of stormwater runoff by absorbing rainwater. They also help cool building envelopes, mitigating the urban heat island effect.

45. (A) Statement I is correct, and Statement II is incorrect.
Nature-based solutions involve actions that protect and restore ecosystems to address societal challenges like flooding or heat. These solutions leverage natural processes and are often more sustainable and cost-effective than traditional engineering. Contrary to being high-energy mechanical systems, NbS focus on using the natural capacity of the environment to provide services, thereby reducing the reliance on intensive infrastructure.

46. (C) Installing vegetated rain gardens integrated into the street curbs.
To address frequent pluvial flooding at the street level, planners can integrate vegetated rain gardens into the curbs. These gardens act as localized detention areas that capture and soak up excess surface runoff during heavy rain. This nature-based approach reduces the volume of water entering the drainage system, prevents localized waterlogging, and provides ecological benefits such as filtration and aesthetics.

47. (D) Gray Infrastructure — Piped drainage networks
Urban infrastructure is classified based on its function and design. Gray infrastructure refers to traditional engineered systems like piped drainage networks and concrete channels. Blue infrastructure encompasses water bodies and waterways, while green infrastructure includes parks and vegetation. Social infrastructure involves community facilities. Correctly identifying these types is essential for developing integrated planning strategies that combine natural and built environments.

48. (C) To act as a natural sponge that attenuates peak flood volumes and slowly releases water.
Restoring urban wetlands is a key strategy for flood management because these ecosystems act as natural sponges. They provide space to store excess water during heavy rainfall, thereby attenuating peak flood volumes. By slowly releasing this stored water, wetlands reduce the pressure on downstream drainage systems. They also improve water quality and provide important habitats for wildlife, enhancing urban resilience.

49. (B) I, III and IV only
The urban ecological footprint measures the total biologically productive land and water area required to sustain a city's population and assimilate its waste. It is not limited to the city's administrative boundaries; rather, it accounts for the global resources consumed. A sustainable city strives to reduce this footprint over time by improving resource efficiency and minimizing waste.

50. (D) The analysis of a city's input of resources and output of wastes, similar to an organism.
Urban metabolism is a conceptual framework that analyzes a city's resource flows, similar to the biological processes of a living organism. It quantifies the inputs of energy, water, and materials and the resulting outputs of products, emissions, and waste. This analysis helps planners understand the efficiency of the city's resource use and identify opportunities to transition toward a circular economy.

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85. (A) I, II and IV only
The Central Pollution Control Board coordinates environmental regulation nationwide and resolves disputes between state boards. State boards like the MPPCB plan programs for local pollution prevention and set state-specific discharge standards. However, the CPCB does not directly issue Consent to Operate for small-scale industries; this is the primary responsibility of the respective State Pollution Control Board managing local compliance.

86. (D) Plan, Do, Check, Act
The Plan-Do-Check-Act cycle is the foundational process for continuous improvement in ISO 14001. Plan involves setting environmental objectives. Do is the implementation. Check involves monitoring the results against objectives. Act means taking corrective actions to improve performance based on findings. This cycle ensures that an organization's environmental management system remains dynamic and effective in reducing its ecological footprint over time.

87. (A) Both A and R are true and R is the correct explanation of A.
Corporate Environmental Responsibility mandates that industries allocate a portion of their project budget to environmental mitigation and local welfare. This requirement is designed to address the environmental externalities and localized impacts that a project may generate during its development and operation. By investing in community health, companies can mitigate their negative footprint and contribute to the sustainable development of areas.

88. (C) The maximum number of individuals or level of activity an urban environment can sustain.
In urban environmental management, carrying capacity refers to the maximum population size or level of activity that a city can sustain without compromising its natural resources or ecological health. It considers factors like water availability and waste assimilation. Understanding these limits is crucial for planners to ensure that urban growth is managed sustainably and does not lead to long-term damage.

89. (A) P-2, Q-3, R-1, S-4
The Environmental Information System is structured with various functional units. The MoEFCC acts as the central focal point. ENVIS Hubs are typically managed by state departments to focus on state-level environmental status. Resource Partners are institutes with expertise in specific thematic areas. The ISBEID is the comprehensive database used to manage state-level environmental information across this decentralized national network.

90. (A) Executing state-funded urban infrastructure projects like sewage treatment and water supply.
The Madhya Pradesh Urban Development Company plays a vital role by executing large-scale infrastructure projects that directly impact the environment. These include developing sewage treatment plants, improving municipal water supply systems, and managing solid waste infrastructure. By modernizing these services, MPUDC helps cities across the state reduce pollution, conserve water resources, and improve the overall environmental quality and sanitation for populations.

91. (B) Ambient PM2.5 and PM10 concentrations, and traffic density data over the decade.
When investigating a spike in respiratory diseases, an Environmental Status Report should prioritize the analysis of air quality data. Specifically, monitoring the concentrations of fine particulate matter, such as PM2.5 and PM10, is essential, as these pollutants are directly linked to respiratory issues. Correlating this data with traffic density helps identify major pollution sources, allowing targeted intervention strategies.

92. (B) Ambient Decibel Level (dB)
Standard parameters for assessing the quality of treated wastewater include Biochemical Oxygen Demand, Chemical Oxygen Demand, and Total Suspended Solids. These measures indicate the amount of organic and inorganic pollutants remaining in the water. Ambient Decibel Level, however, is a measure of sound intensity and noise pollution. It is not relevant to the chemical or biological quality of wastewater.

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sets specific reduction targets for particulate matter concentrations, using 2017 as the original base year. The Ministry of Environment, Forest and Climate Change is the nodal implementing agency at the central level.

60. (B) To provide a standardized method to benchmark and track sustainable performance over time.
Utilizing standardized indicators like ISO 37120 provides municipal administrations with a reliable method to benchmark their sustainable performance against other cities. It allows for tracking progress over time using consistent data, which informs better policy making and resource allocation. This systematic approach complements the master planning process by providing measurable data on environmental, social, and economic indicators essential for sustainability.

61. (A) I and III only
India's Air Quality Index simplifies complex pollutant data into a single number and color-coded category for public understanding. It covers eight pollutants, including PM10, PM2.5, and others. The 'Severe' category indicates levels that can cause respiratory distress even in healthy individuals. The index is designed to communicate immediate health risks associated with the daily concentration of pollutants in the atmosphere.

62. (C) Significant enhancement of urban soil biodiversity and earthworm populations
Soil sealing, the covering of land with impervious materials like concrete, has several negative ecological consequences. It reduces natural groundwater recharge, increases the volume and speed of surface runoff, and exacerbates the urban heat island effect. Far from enhancing biodiversity, it destroys the habitats of soil organisms and disrupts the essential gas and water exchange processes required for a healthy ecosystem.

63. (A) Both A and R are true and R is the correct explanation of A.
Excessive artificial light at night significantly disrupts urban ecosystems. It interferes with the natural rhythms of many species, such as the navigation of migratory birds and the foraging behaviors of nocturnal mammals. Additionally, it can impact the mating and life cycles of insects. This loss of darkness creates an ecological imbalance, affecting the survival and distribution of various organisms in cities.

64. (C) Satisfaction with the thermal environment as influenced by air, heat, humidity, and wind.
Thermal comfort is a subjective measure of satisfaction with the surrounding thermal environment. It is influenced by a combination of factors, including air temperature, radiant heat, humidity levels, and wind speed. In urban microclimate planning, achieving thermal comfort is essential for ensuring that outdoor and indoor spaces are habitable and pleasant for residents, which helps mitigate the negative health impacts.

65. (A) P-4, Q-1, R-3, S-2
The runoff coefficient indicates the portion of rainfall that becomes surface runoff. Impermeable surfaces like asphalt and commercial areas have very high coefficients, ranging from 0.70 to 0.95, because almost all water flows off. Flat parklands have low coefficients, between 0.10 and 0.20, due to high infiltration. Residential areas with lawns fall in the middle, reflecting a mix of surfaces.

66. (D) Maintenance of a designated 'No Construction Zone' or riparian buffer along the river.
Urban planning for cities in the Narmada River basin must prioritize the protection of the river's ecological integrity. Maintaining a designated 'No Construction Zone' or riparian buffer along the riverbanks is essential for preventing pollution, stabilizing banks, and managing flood risks. This ecological mandate ensures that development does not encroach on the sensitive riverine ecosystem, preserving water quality and habitat.

67. (A) Installing multi-layered vegetative noise barriers and earth berms along the highway.
To mitigate noise from a major highway near a city, the most effective and ecologically integrated strategy is to install multi-layered vegetative barriers and earth berms. These structures absorb and deflect sound waves, significantly reducing noise levels in adjacent residential areas. Unlike solid concrete walls, green barriers also provide ecological benefits, such as air filtration and habitat connectivity, for residents.

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on restoring degraded areas, such as urban lakes. Creating new ecosystems refers to designing features like wetlands in plazas. Hybrid approaches combine these ecological methods with traditional engineered gray infrastructure, such as bioswales integrated with piped drainage.

102. (D) Lakefront and riverfront ecological restorations with non-motorized transport corridors.
Under the Smart Cities Mission, cities like Ujjain and Bhopal have prioritized the ecological restoration of their lakefronts and riverfronts. These projects involve cleaning water bodies and developing non-motorized transport corridors like walking and cycling paths. These initiatives aim to improve the urban environment, provide high-quality public spaces, and enhance the ecological health and aesthetic value of these critical components.

103. (B) Replacing continuous concrete curbs with cuts leading into linear bioswales and tree trenches.
To address waterlogging in a high-density street, a viable intervention is to replace traditional concrete curbs with curb cuts that lead into linear bioswales or tree trenches. This modification allows surface runoff to flow into vegetated areas where it can be detained and infiltrated. This decentralized approach reduces pressure on the storm drain system and helps prevent localized flooding effectively.

104. (C) Significant acceleration of runoff velocity into downstream bottlenecks.
Restoring urban wetlands provides multiple ecological benefits, including groundwater recharge, sediment trapping, and nutrient removal from runoff. They also provide vital habitats for various species. However, wetlands are designed to slow down water flow, not accelerate it. By providing space for water to spread out, they reduce the velocity of runoff, which helps prevent erosion and downstream flood impact.

105. (A) Statement I is correct, and Statement II is incorrect.
Permeable pavements are designed to allow rainwater to soak through the surface and into the underlying soil, which effectively reduces surface runoff and recharges groundwater. While they are excellent for parking lots and low-speed roads, they are generally not recommended for heavy-duty highways with high-speed traffic. The structural design of permeable pavements often lacks the required load-bearing capacity.

106. (A) Improvement of urban aquifer recharge, restoration of storage, and creation of public spaces.
Projects following the AMRUT 2.0 guidelines for water body rejuvenation are expected to restore the natural storage and recharge functions of urban lakes and step-wells. By cleaning these water bodies and improving ecological health, these initiatives also create valuable public spaces for recreation. The overall outcome is improved water security, enhanced biodiversity, and a more resilient urban environment.

107. (B) BGI relies on breaking down silos between urban planning, hydrology, landscape architecture, and ecology.
Successful integration of Blue-Green Infrastructure requires a collaborative approach that breaks down the traditional silos between urban planning, hydrology, landscape architecture, and ecology. Instead of being a mere aesthetic addition, BGI is a multifunctional engineering solution that addresses water management and biodiversity. It involves designing systems where natural and built elements work together to provide measurable environmental benefits.

108. (B) The catchment area, the design storm rainfall depth, and the infiltration rate of the soil.
To correctly size a green infrastructure intervention like a rain garden, a planner must calculate the volume of water it needs to handle. This requires knowing the total catchment area draining into the garden, the design storm rainfall depth for the region, and the infiltration rate of the soil. These technical calculations ensure that the garden manages the expected runoff.

109. (A) I, II and IV only
ISO 37120 provides a standardized set of indicators for sustainable cities across various categories. Included are environmental metrics like fine particulate matter concentrations, the percentage of the population with regular solid

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93. (A) Statement I is correct, and Statement II is incorrect.
Green Public Procurement encourages government agencies to buy products with lower environmental impacts, such as energy-efficient LED lights. A core principle of GPP is evaluating the lifecycle cost of a product, which includes its initial price and operating expenses. Therefore, it does not ignore financial considerations but rather promotes a more comprehensive economic assessment that rewards efficiency and durability.

94. (C) Implementing a continuous real-time effluent and emission monitoring system for the PCB.
Best practice for environmental compliance monitoring involves implementing continuous, real-time systems for tracking effluent and emission quality. This approach provides the Pollution Control Board with constant data, making it harder to bypass regulations between inspections. Real-time monitoring ensures immediate detection of violations, promotes transparency, and allows for more effective enforcement, leading to better protection of local air and water.

95. (D) It recognizes the principle of 'Intra-generational equity' for equitable access to resources.
The National Environment Policy of 2006 is built on several key principles, including the recognition of intra-generational equity. This principle emphasizes the need for equitable access to environmental resources and a clean environment for all people within the current generation. It seeks to balance economic growth with environmental protection, ensuring that the benefits of resource use are distributed fairly.

96. (C) The balance between sustainable yield of regional sources against projected per capita demand.
Conducting a carrying capacity analysis for urban water supply involves calculating the balance between the sustainable yield of available regional water sources and the projected demand of the population. This assessment helps determine if the local environment can provide enough water without over-extracting aquifers. It is a fundamental step for ensuring long-term water security and planning for future city growth.

97. (A) I, II and IV only
The Sponge City model uses several strategies to manage water naturally, including permeable paving, interconnected wetlands, and green roofs. These elements help capture and soak up rainwater. However, the complete canalization of streams with concrete banks is a traditional gray infrastructure approach that speeds up water flow. It is contrary to the Sponge City goals of slowing down water.

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98. (D) A vegetated depression designed to capture and infiltrate stormwater runoff from city surfaces.
A rain garden is a shallow, vegetated depression designed to manage stormwater runoff from impervious surfaces like roofs and driveways. By capturing water and allowing it to soak slowly into the ground, rain gardens reduce the volume of runoff that enters storm drains. The plants and soil also help filter out pollutants, improving the quality of the water that recharges groundwater.

99. (A) Both A and R are true and R is the correct explanation of A.
Establishing wide riparian buffer zones along urban rivers is an effective way to reduce the risk of destructive flash floods. The vegetation in these zones provides natural floodplain storage and slows the velocity of moving water. By increasing infiltration and providing space for expansion during heavy rains, these buffers protect downstream areas from the sudden surges that characterize urban flooding.

100. (C) A building roof covered with vegetation and a growing medium over a waterproof membrane.
A green roof is a functional system that involves covering a building's roof with vegetation and a specialized growing medium, placed over a waterproof membrane. These roofs provide numerous benefits, including reduced stormwater runoff and improved thermal insulation for the building. They also help mitigate the urban heat island effect by cooling the surrounding air through the process of evapotranspiration.

101. (A) P-2, Q-4, R-1, S-3
Nature-based solutions are categorized by their level of intervention. Minimal intervention involves protecting intact ecosystems like remnant forests. Management approaches focus

118. (D) Utilizing treated municipal wastewater for agricultural irrigation and industrial cooling.
Applying the principle of circular metabolism involves closing resource loops within the city. A practical example is treating municipal wastewater and reusing it for agricultural irrigation or industrial cooling instead of simply discharging it as waste. This practice reduces the demand for freshwater extraction and minimizes the volume of wastewater that enters the environment, contributing to a more sustainable management system.

119. (B) Parameters cover environmental dimensions, including energy, land, transport, waste, and air.
The Green City Index uses a wide range of parameters to evaluate a city's environmental performance. These include energy efficiency, land use planning, transport connectivity, waste management practices, and ambient air quality. By considering these diverse dimensions, the index provides a comprehensive picture of how well a city is managing its environmental impacts and progressing toward long-term urban sustainability goals.

120. (C) A localized approach integrating environmental data tracking with policy targets and ISO standards.
To develop a successful urban sustainability framework, a planner must adopt a localized approach. This involves integrating specific local environmental data with clear policy targets and international frameworks like ISO standards. By considering the unique geographical and social context of the city, the framework can address real local challenges effectively. This ensures that sustainability goals are achievable and measurable.

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39. Which of the following statements correctly represents a key provision of the Water (Prevention and Control of Pollution) Act, 1974?
(A) It provides for the establishment of only the Central Pollution Control Board, while prohibiting State Boards.
(B) It deals with the allocation of drinking water resources to municipalities based on daily population demand.
(C) It explicitly excludes groundwater resources from its definition and scope of water pollution control measures.
(D) It mandates prior consent from the State Board for establishing any industry discharging effluent into a stream.

40. Which of the following pairs regarding environmental legislation is INCORRECTLY matched?
(A) Biological Diversity Act, 2002 – Regulates the manufacture and use of hazardous chemicals
(B) Forest (Conservation) Act, 1980 – Regulates the diversion of forest land for non-forestry purposes
(C) Wildlife (Protection) Act, 1972 – Protection of wild animals, birds, and plants
(D) Wetlands (Conservation and Management) Rules, 2017 – Prohibits solid waste dumping in wetlands

41. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Town planning projects that require the clearing of reserved forests must obtain prior approval from the Central Government.
Reason (R): The Forest (Conservation) Act, 1980 mandates that state governments cannot de-reserve forests or divert forest land for non-forest use without central clearance.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

42. Read the following statements regarding the planning implications of the Wildlife Protection Act 1972 and select the correct option:
Statement I: The Act prohibits the establishment of any new commercial industries inside the core zone of a National Park.
Statement II: The Act permits urban development authorities to alter the boundaries of a Sanctuary through an executive order of the Municipal Commissioner.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

43. In Madhya Pradesh, the Pachmarhi Biosphere Reserve requires specific planning regulations to preserve its ecology. Under which environmental concept is a buffer area around such protected regions typically notified by the MoEFCC?
(A) Eco-Sensitive Zone (ESZ)
(B) Special Economic Zone (SEZ)
(C) Coastal Regulation Zone (CRZ)
(D) Heavy Industry Zone

44. Match the following environmental Rules/ Notifications in List I with their primary regulatory focus in List II:
List I: (Rule/Notification)
P. Hazardous and Other Wastes Rules 2016
Q. CRZ Notification 2019
R. Fly Ash Utilisation Notification
S. Wetlands Rules 2017
List II: (Regulatory Focus)
1. Conservation of Ramsar sites and local waterbodies
2. Promoting the use of thermal power plant by-products in construction
3. Regulating development activities along the seafront
4. Safe handling, transport, and disposal of industrial toxic waste
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-3, R-4, S-1

45. Which of the following activities is NOT generally prohibited under the Coastal Regulation Zone (CRZ) Notification, 2019 in CRZ-I areas?

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Statement II: SEA is a proactive approach used to integrate environmental considerations into policies, plans, and programs.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

7. In the context of Madhya Pradesh, which authority is directly responsible for granting environmental clearance to Category B projects as per the EIA Notification 2006?
(A) Madhya Pradesh Pollution Control Board (MPPCB)
(B) Urban Development and Housing Department (UDHD)
(C) Town and Country Planning Department, MP
(D) State Environment Impact Assessment Authority (MPSEIAA)

8. Match the components of an Environmental Management Plan (EMP) in List I with their standard actions in List II:
List I: (Component)
P. Mitigation Measures
Q. Environmental Monitoring
R. Capacity Building
S. Emergency Response
List II: (Action)
1. Establishing CAAQMS stations at the project site
2. Installing dust suppression systems during construction
3. Formulating evacuation routes for industrial hazards
4. Training local municipal staff on waste management
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-1, S-4

9. Which of the following is NOT typically a component of an Environmental Impact Statement (EIS)?
(A) A description of the proposed action and its alternatives
(B) The detailed financial profit margins of the project proponent
(C) The probable impact of the proposed action on the environment
(D) The Environmental Management Plan for mitigation of adverse impacts

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10. A town planner is proposing a new satellite township covering an area of 60 hectares with significant built-up area. Under which category of the EIA Notification 2006 will this project likely be appraised, assuming standard thresholds apply?
(A) Category A, requiring MoEFCC clearance
(B) Category B1, requiring a detailed EIA and SEIAA clearance
(C) Category B2, requiring SEIAA clearance but no detailed EIA
(D) Exempt from EIA as it falls below the minimum hectare threshold for area development

11. Arrange the following key stages of the Environmental Impact Assessment (EIA) process in the correct chronological order:
1. Appraisal by Expert Committee
2. Screening
3. Public Consultation
4. Scoping and ToR generation
(A) 2-4-3-1
(B) 4-2-1-3
(C) 2-3-4-1
(D) 4-3-2-1

12. A project proponent has received Environmental Clearance (EC) for a massive residential complex. According to the standard EC conditions, how frequently must the proponent submit the post-clearance environmental compliance report to the regulatory authority?
(A) Once every month
(B) Once every three months
(C) Once every six months
(D) Once every year

13. How is Social Impact Assessment (SIA) defined in the context of land acquisition?
(A) A financial audit used to determine the fair market value of land being acquired by the state

CHAPTER 12

Environmental and Social Impact Assessment

1. What is the primary purpose of conducting an Environmental Impact Assessment (EIA) for a proposed town planning project?
(A) To evaluate and mitigate the biophysical and social impacts of development proposals before decision-making
(B) To strictly prohibit any development activity that significantly alters the natural landscape of a specific region
(C) To calculate the maximum permissible financial budget for long-term environmental rehabilitation and conservation
(D) To transfer all future environmental liabilities from the project proponent to the local municipal body or authority

2. Consider the following statements regarding the EIA Notification 2006:
1. Category A projects require clearance from the Central Government (MoEFCC).
2. Category B projects are appraised by the State Level Expert Appraisal Committee (SEAC).
3. Category B1 projects do not require an Environmental Impact Assessment report.
4. Category B2 projects are exempt from the public consultation process.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 2, and 3
(D) 1, 3, and 4

3. Which of the following statements correctly describes the 'baseline study' phase of the EIA process?
(A) It records the existing environmental status of the study area before project commencement
(B) It involves post-construction monitoring to ensure the Environmental Management Plan is fully functional
(C) It establishes the formal financial compensation structure for all affected local community members
(D) It determines the final terms of reference and legal guidelines for the project proponent to follow

4. Which of the following pairs regarding the EIA process is INCORRECTLY matched?
(A) Screening – Determining whether a project requires an EIA and under what category
(B) Scoping – Determining the detailed Terms of Reference (ToR) for the EIA study
(C) Appraisal – Detailed scrutiny by the Expert Appraisal Committee of the EIA report
(D) Impact Prediction – Assessing the future state of the environment without the proposed project

5. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Under the EIA Notification 2006, public hearing is a mandatory step for all Category A and Category B1 projects without any exceptions.
Reason (R): The public consultation process ensures that the concerns of the locally affected persons are factored into the project design.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

6. Read the following statements regarding Strategic Environmental Assessment (SEA) and select the correct option:
Statement I: SEA is applied exclusively to individual, site-specific infrastructure projects.

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20. Match the vulnerable groups considered in an SIA in List I with their specific protection needs in List II:
List I: (Vulnerable Group)
P. Elderly populations
Q. Women
R. Scheduled Tribes
S. Landless agricultural laborers
List II: (Protection Need)
1. Restoration of non-title based livelihood dependencies
2. Ensuring joint-titling of compensation and resettlement assets
3. Preservation of sacred groves and cultural heritage
4. Designing barrier-free transit and healthcare access at resettlement sites
(A) P-4, Q-2, R-3, S-1
(B) P-3, Q-1, R-2, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-4, R-3, S-1

21. Which of the following is NOT a recognized component of a Social Management Plan (SMP)?
(A) Measures to mitigate adverse social impacts
(B) Detailed engineering drawings of the project machinery
(C) Institutional mechanisms for implementing the R&R plan
(D) A dedicated grievance redressal mechanism

22. A town planner is designing a transit-oriented development (TOD). To ensure a proper Gender Impact Assessment as part of the SIA, which application of study is most appropriate?
(A) Assessing the overall increase in real estate value across the entire transit-oriented development corridor
(B) Calculating the total number of construction jobs created for local residents during project execution
(C) Evaluating safety, pedestrian lighting, and accessibility of transit hubs for female commuters
(D) Determining the exact age and technical specifications of the rolling stock used in the transit system

23. Arrange the following steps of the Social Impact Assessment process under the LARR Act 2013 in the correct chronological order:
1. Preparation of the Social Impact Management Plan (SIMP)
2. Issuance of SIA Notification by the appropriate Government
3. Appraisal by an Independent Multi-Disciplinary Expert Group
4. Conducting Public Hearings in the affected areas
(A) 2-4-1-3
(B) 2-1-4-3
(C) 1-2-4-3
(D) 4-2-1-3

24. During a post-clearance SIA monitoring phase for an industrial park, local residents complain that compensation has not reached the landless laborers. What is the most appropriate immediate action for the regulatory body?
(A) Activate the grievance redressal mechanism and mandate an independent audit of the R&R disbursement
(B) Cancel the project's environmental clearance and halt all construction activities on the site immediately
(C) Increase the height of the site boundary wall to prevent local residents from organizing protests
(D) Evict the laborers immediately as they do not hold legal title to the land occupied by the project

25. What is the National Ambient Air Quality Standard (NAAQS) 24-hour limit for Particulate Matter size less than 2.5 micrometers (PM2.5) in ecologically sensitive areas as notified by the Central Government?
(A) 40 $\mu g/m^3$
(B) 60 $\mu g/m^3$
(C) 100 $\mu g/m^3$
(D) 120 $\mu g/m^3$

26. Consider the following statements regarding noise monitoring standards in India:
1. The ambient air quality standard for noise in an industrial area during the daytime is 75 dB(A).
2. The daytime limit for residential areas is set at 65 dB(A).
3. Silence zones are declared up to 100 meters around hospitals, educational institutions, and courts.

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trees
(B) Layout Approval – Stage where open space reservations are formalized
(C) Green Infrastructure – Integration of permeable pavements and bioswales
(D) Operation Phase Management – Monitoring dust emissions from excavation equipment

53. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Integrating the Environmental Management Plan (EMP) into the project design phase is highly recommended in town planning.
Reason (R): Early integration ensures that mitigation measures, such as noise barriers or natural drainage retention, are physically and financially built into the project, preventing costly retrofits.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

54. Read the following statements regarding Green Infrastructure in urban projects and select the correct option:
Statement I: Green infrastructure utilizes natural processes like soil infiltration and vegetation to manage stormwater at the source.
Statement II: Relying entirely on traditional concrete pipe networks (grey infrastructure) is considered more ecologically sustainable than green infrastructure.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

55. The Upper Lake in Bhopal is a critical ecological asset. Which state-level planning intervention exemplifies the mainstreaming of environmental conservation for this waterbody?
(A) Notifying the entire waterbody strictly as an industrial Special Economic Zone for future manufacturing
(B) Allowing unregulated motorized commercial boating to boost local tourism and hospitality revenue
(C) Reclaiming its fringes for the Smart City affordable housing projects to reduce urban sprawl
(D) Declaring its catchment area as a no-construction buffer zone under specific conservation guidelines

56. Match the stages of project implementation in List I with the appropriate environmental actions in List II:
List I: (Implementation Stage)
P. Tender Documentation
Q. Pre-construction
R. Construction Phase
S. Operation Phase
List II: (Environmental Action)
1. Implementation of the solid waste management plan by residents
2. Incorporating EMP cost and penalty clauses into the contract
3. Obtaining tree felling NOCs and clearing the site
4. Suppressing dust and managing construction debris
(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-4, R-3, S-1

57. Which of the following is NOT typically a part of the operation phase environmental management for a residential township?
(A) Maintenance of the Sewage Treatment Plant (STP)
(B) Environmental supervision of heavy earth-moving excavation
(C) Management of the Rainwater Harvesting systems
(D) Segregation and disposal of municipal solid waste

58. A regional planner is assessing a valley where five new mining projects are proposed. Instead of evaluating each project in isolation, the planner analyzes the combined stress on the local watershed and air quality. What is this concept known as?
(A) Singular Impact Assessment

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(A) P-3, Q-2, R-1, S-4
(B) P-2, Q-3, R-4, S-1
(C) P-3, Q-1, R-2, S-4
(D) P-1, Q-2, R-4, S-3

33. Which of the following is NOT a function of the National Environment Information System (ENVIS)?
(A) Issuing direct punitive fines to polluting industries
(B) Collection and collation of environmental data
(C) Publication of environmental journals and newsletters
(D) Functioning as a comprehensive web-based database for researchers

34. A manufacturing plant's effluent discharge unexpectedly hits the predefined 'trigger level' for biological oxygen demand (BOD). What is the most appropriate corrective action protocol the environmental planner should enforce?
(A) Immediately suspend all operations permanently without conducting any further technical investigation
(B) Divert the effluent to a nearby agricultural field to dilute the toxic concentration with surface water
(C) Initiate emergency treatment and report the breach to the State Pollution Control Board
(D) Increase the trigger level threshold in the official project documentation to match the current discharge

35. Arrange the following stages of setting up a Third-party Environmental Audit in the correct chronological order:
1. Selection and appointment of an accredited independent auditor
2. Review of the environmental baseline and consent conditions
3. Formulation of corrective action plans based on audit findings
4. On-site inspection and sampling of environmental parameters

(A) 2-1-4-3
(B) 1-2-4-3
(C) 1-4-2-3
(D) 2-4-1-3

36. An urban local body needs to manage vast amounts of ambient air and water quality data generated over five years to revise its Master Plan. Which approach is most effective?
(A) Printing the data and storing it in physical files for future manual reference by urban planners
(B) Deleting older monitoring data annually to make room for new real-time inputs from CAAQMS stations
(C) Outsourcing the data storage strictly to foreign academic institutions for safe keeping and analysis
(D) Integrate the historical data into a Geographic Information System (GIS) to analyze spatial pollution trends

37. What defines an Eco-Sensitive Zone (ESZ) as notified by the MoEFCC?
(A) An area earmarked strictly for heavy industrial development and large-scale manufacturing units
(B) A buffer region around protected areas like National Parks to act as a transition zone
(C) A zone where absolutely no human movement, habitation, or agriculture is allowed under any law
(D) An exclusively marine area designated for commercial fishing and international shipping traffic

38. Consider the following statements regarding the Environment (Protection) Act, 1986:
1. It was enacted in the wake of the Bhopal Gas Tragedy.
2. It empowers the Central Government to establish standards for the quality of the environment.
3. The Act restricts the Central Government from delegating its powers to State Boards.
4. It serves as umbrella legislation for various environmental notifications including EIA and CRZ.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, and 3

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(B) A demographic survey conducted primarily to update the national census database for the project area
(C) A legal procedure used to systematically evict encroachers from government-owned land for development
(D) A process to evaluate and mitigate the social consequences of infrastructure projects on affected communities

14. Consider the following statements regarding the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (LARR) Act, 2013:
1. It mandates an SIA for all land acquisitions by the government, with limited exceptions for urgency.
2. The SIA study must be completed within six months from the date of its initiation.
3. Consent of 80% of affected families is required for acquiring land for private companies.
4. Consent is entirely waived if the land is acquired for public-private partnership (PPP) projects.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, and 4

15. Which of the following best describes the core objective of a social baseline study in SIA?
(A) To quantify the total construction materials required by the local community for building infrastructure
(B) To record the demographic and socio-cultural profile of the community before project implementation
(C) To finalize the detailed architectural layout and site plan of the proposed rehabilitation colony
(D) To evaluate the geological soil bearing capacity of the proposed resettlement and housing site

16. Which of the following pairs regarding social impact categories is INCORRECTLY matched?
(A) Displacement Impact – Physical relocation of households from the project site
(B) Livelihood Impact – Loss of access to traditional fishing grounds
(C) Vulnerability Impact – Disproportionate negative effects on disabled or elderly persons
(D) Cultural Impact – Alteration of the groundwater table affecting crop yield

17. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Under the LARR Act 2013, Free, Prior and Informed Consent (FPIC) is mandatory before acquiring land in Scheduled Areas.
Reason (R): Scheduled Tribes have unique cultural and livelihood dependencies on their traditional lands, necessitating heightened legal protection.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

18. Read the following statements regarding the Rehabilitation and Resettlement (R&R) Plan and select the correct option:
Statement I: The R&R Plan must include provisions for providing employment or alternate livelihoods to the affected families.
Statement II: The R&R Plan is prepared exclusively by the private project developer without any involvement of the District Administration.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

19. In the context of Madhya Pradesh, which major river valley project historically highlighted the critical need for comprehensive Social Impact Assessments due to massive tribal displacement?
(A) Narmada Valley Development Project
(B) Chambal Valley Project
(C) Betwa River Board Project
(D) Bansagar Dam Project

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(A) Setting up of new manufacturing industries or industrial units within the zone
(B) Disposal of untreated municipal solid waste or construction debris into the sea
(C) Establishment of hazardous waste disposal facilities or chemical storage warehouses
(D) Construction of traditional coastal fishing community housing within permissible limits

46. An urban planner in Madhya Pradesh is sanctioning a housing layout within 100 kilometers of a coal-based thermal power plant. Which environmental notification must be enforced regarding the construction materials?
(A) Coastal Regulation Zone Notification
(B) Hazardous Waste Management Rules
(C) Fly Ash Utilisation Notification
(D) Biological Diversity Rules

47. Arrange the enactment years of the following major environmental legislations in India in chronological order:
1. Environment (Protection) Act
2. Water (Prevention and Control of Pollution) Act
3. Forest (Conservation) Act
4. Air (Prevention and Control of Pollution) Act

(A) 2-3-4-1
(B) 2-4-3-1
(C) 3-2-4-1
(D) 4-2-1-3

48. A real estate developer proposes to build high-rise apartments by reclaiming a portion of a marshland identified in the National Wetland Inventory. As a town planner applying the Wetlands Rules 2017, what is the appropriate decision?
(A) Approve the project immediately as marshlands are considered wastelands in the regional master plan
(B) Approve the project on the condition that the developer pays a minor environmental cess to the state
(C) Forward the proposal to the Coastal Zone Management Authority for final review and site clearance
(D) Reject the project as conversion of wetlands for non-wetland uses is strictly prohibited

49. What does the term 'mainstreaming environment in development plans' primarily mean in urban planning?
(A) Integrating environmental protection and sustainability into all sectoral policies and spatial planning
(B) Creating an entirely separate and independent environmental master plan without link to land use
(C) Relocating all natural habitats to the outskirts of the city limits to maximize commercial land use
(D) Focusing solely on the economic valuation of urban trees for taxation and carbon credit purposes

50. Consider the following statements regarding environmental zoning in master plans:
1. It aims to separate highly polluting industries from residential areas.
2. It completely halts all forms of economic activity within the city limits.
3. It designates specific corridors for green infrastructure and ecological networks.
4. It helps in demarcating groundwater recharge zones to restrict heavy construction.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

51. Which of the following statements correctly justifies the inclusion of 'green spaces' as a mandatory land use category in urban layout approvals?
(A) They act as carbon sinks, improve micro-climate, and provide recreational areas for citizens.
(B) Green spaces increase the structural load-bearing capacity of adjacent buildings.
(C) They are legally required to generate revenue through commercial logging.
(D) They prevent the migration of rural populations into urban areas.

52. Which of the following pairs regarding environmental integration in urban projects is INCORRECTLY matched?
(A) Tree Preservation Order – Legal mechanism to prevent unauthorized felling of mature

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4. The night-time limit for silence zones is strictly 40 dB(A).

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 4

27. Which of the following statements correctly identifies the standard parameters used in the CPCB river water quality monitoring network?
(A) Biological Oxygen Demand (BOD), Dissolved Oxygen (DO), and Fecal Coliform are primary indicators.
(B) Total Suspended Solids (TSS) is the only parameter used to determine the potability of river water.
(C) Monitoring is exclusively done to measure the heavy metal concentration of unpolluted rivers.
(D) The network operates without relying on any predefined Bureau of Indian Standards (BIS).

28. Which of the following pairs regarding soil contamination monitoring is INCORRECTLY matched?
(A) Heavy Metals – Lead, Cadmium, and Arsenic
(B) Pesticide Residues – Organochlorines and Organophosphates
(C) Dissolved Oxygen – Primary indicator of soil fertility
(D) Soil pH – Indicator of soil acidity or alkalinity

29. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are increasingly preferred over manual monitoring systems in smart city planning.
Reason (R): CAAQMS provide real-time data, enabling rapid public health advisories and immediate corrective actions during severe pollution episodes.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

30. Read the following statements regarding groundwater quality monitoring in India and select the correct option:
Statement I: The Central Ground Water Board (CGWB) is the apex agency responsible for mapping and monitoring groundwater quality across India.
Statement II: Groundwater quality monitoring strictly excludes the measurement of natural contaminants like arsenic and fluoride.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

31. In Madhya Pradesh, the pollution levels of the Narmada and Chambal rivers are regularly monitored. Which state-level organization operates the network of monitoring stations along these river basins?
(A) MP State Agro Industries Development Corporation
(B) Madhya Pradesh Pollution Control Board (MPPCB)
(C) MP Urban Development Company (MPUDC)
(D) Narmada Valley Development Authority (NVDA)

32. Match the environmental data management systems and tools in List I with their primary applications in List II:
List I: (System/Tool)
P. Remote Sensing
Q. CAAQMS
R. ENVIS Node
S. MIS / GIS Database
List II: (Primary Application)
1. Dissemination of specific environmental subject information
2. Real-time atmospheric pollutant tracking
3. Mapping changes in forest cover and land use over time
4. Spatial integration and reporting of environmental audits

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(B) Cumulative Impact Assessment
(C) Baseline Profiling
(D) Strategic Retrospective Assessment

59. Arrange the following steps for ensuring environmental compliance during the construction phase of an urban infrastructure project in chronological order:
1. Site demobilization and landscape restoration
2. Inclusion of environmental clauses in the contractor's bidding documents
3. Routine environmental supervision and dust monitoring
4. Securing site clearance and barricading sensitive ecological features

(A) 2-4-3-1
(B) 4-2-3-1
(C) 2-3-4-1
(D) 4-3-2-1

60. A town planner reviewing a building permission application for a commercial complex notices a lack of provisions for groundwater recharge, despite the area being designated as a critical groundwater block. What action must the planner take?
(A) Approve the application but issue a formal verbal warning regarding future water conservation norms
(B) Reject the application permanently without allowing the developer to submit any architectural modifications
(C) Mandate the integration of rainwater harvesting structures as a strict condition for building permission
(D) Forward the file to the Chief Minister's office for a special waiver from existing groundwater laws

61. What is the definition of "Terms of Reference" (ToR) in the context of an Environmental Impact Assessment?
(A) The final environmental clearance certificate issued by the central or state government authority
(B) The financial contract between the project proponent and the municipal corporation for land development
(C) The post-construction monitoring report submitted periodically to the State Pollution Control Board
(D) A document outlining the scope and methodologies to be followed during the EIA study

62. Consider the following statements regarding the Expert Appraisal Committee (EAC):
1. It functions at the central level to appraise Category A projects.
2. It comprises multi-disciplinary experts, including environmental scientists and sociologists.
3. The EAC is a permanent legislative body with the power to override the Supreme Court on environmental matters.
4. It relies on the EIA report and the outcomes of the public consultation to evaluate projects.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 2, and 3
(C) 2, 3, and 4
(D) 1, 3, and 4

63. Which of the following statements correctly identifies the purpose of the Environmental Impact Statement (EIS)?
(A) It provides a detailed account of the project's financial profitability and revenue streams over ten years
(B) It communicates the findings of the EIA study, detailing impacts and mitigation measures to decision-makers
(C) It is a legal affidavit stating that the proposed project will have absolutely no impact on the environment
(D) It is a confidential document accessible only to the project proponent and the regulatory government body

64. Which of the following pairs regarding baseline environmental data collection is INCORRECTLY matched?
(A) Ambient Air Quality – High Volume Samplers and continuous analyzers
(B) Ecological Data – Quadrat sampling and line transect surveys
(C) Noise Environment – Sound level meters measuring in dB(A)
(D) Sub-surface Geology – Anemometers and wind vanes

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List II: (NOC/Clearance Required)
1. Forest / Tree Authority NOC
2. CGWA / SGWA NOC
3. National Board for Wildlife (NBWL) Clearance
4. SPCB Authorization under SWM Rules

(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-4, S-2

117. Which of the following is NOT an activity associated with environmental supervision during the construction phase?
(A) Ensuring barricading of the site to control dust
(B) Monitoring the noise levels of heavy machinery
(C) Redesigning the financial budget for the marketing of the project
(D) Verifying that topsoil is stripped, stored, and preserved for landscaping

118. A city is selected under the Smart Cities Mission in MP. Applying the concept of mainstreaming environment, how should the town planner treat the city's natural drainage channels (nullahs)?
(A) Box them in concrete to create more land for commercial real estate and high-density housing developments
(B) Use them as primary dumping grounds for construction debris and untreated municipal solid waste materials
(C) Rejuvenate them as ecological corridors with riparian buffers and non-motorized transport tracks
(D) Divert them completely outside the city limits to prevent seasonal flooding within the smart city zone

119. What is the most effective administrative way to ensure that civil contractors comply with the Environmental Management Plan (EMP) during construction?
(A) Rely on the verbal assurances of the site engineer regarding the implementation of mitigation measures
(B) Conduct a single third-party environmental audit ten years after the project has been fully completed
(C) Request local non-governmental organizations (NGOs) to supervise the construction site on a daily basis
(D) Incorporate EMP conditions as binding clauses in tender documents and link payments to compliance

120. A draft Regional Plan proposes an industrial corridor that inadvertently overlaps with a recently notified Eco-Sensitive Zone (ESZ). As the chief planner resolving this conflict, what is the legally sound action?
(A) Realign the industrial corridor outside the ESZ boundaries to comply with the MoEFCC notification
(B) Proceed with the industrial corridor as planned, as economic development overrides all ecological notifications
(C) Reduce the ESZ buffer zone unilaterally without consulting the MoEFCC or the state forest department
(D) Classify the industrial corridor as a 'green project' to bypass the ESZ restrictions and environmental laws

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to be acquired for the proposed industrial development
(C) To select the primary contractor and vendors for the construction phase of the infrastructure project
(D) To identify the key environmental issues and impacts requiring detailed investigation in the EIA study

72. During an EIA public hearing for a proposed waste-to-energy plant, local residents fiercely oppose the project citing foul odors from a similar existing plant. What is the appropriate approach for the regulatory panel?
(A) Record the concerns and mandate the proponent to address odor-control in the final EIA/EMP
(B) Dismiss the public hearing immediately and cancel the project based on the initial residents' feedback
(C) Ignore the public's unscientific claims and approve the EIA report to avoid further project delays
(D) Use local police force to disburse the residents and conclude the public hearing without further debate

73. What is the definition of a Social Management Plan (SMP) in the context of SIA?
(A) A document that details the technical architectural layouts of urban housing and utility connections
(B) An action plan detailing mitigation measures for social impacts and the mechanism for implementing R&R
(C) A corporate social responsibility (CSR) brochure created specifically for marketing and public relations
(D) A demographic census report covering the entire state's population density and growth trends

74. Consider the following statements regarding the identification of 'affected families' under the LARR Act 2013:
1. It includes families whose land or other immovable property is being acquired.
2. It includes agricultural laborers and tenants whose primary livelihood is dependent on the land being acquired for the last three years.
3. It excludes tribal families who do not possess written legal title deeds to the forest land they depend on.
4. It includes families whose livelihood is affected due to the acquisition, even if they do not own the land.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

75. Which of the following statements correctly identifies the role of the PESA Act in Tribal Impact Assessments?
(A) It mandates consultation with the Gram Sabha before initiating land acquisition and R&R in Scheduled Areas
(B) It abolishes the requirement for environmental clearance in tribal areas to speed up industrial development
(C) It provides for the rapid industrialization of all tribal blocks regardless of traditional land rights
(D) It restricts tribal populations from claiming any compensation for land acquired for national defense projects

76. Which of the following pairs regarding social impact categories is INCORRECTLY matched?
(A) Displacement Impact – Loss of housing and physical relocation
(B) Cultural Impact – Disruption of community networks and traditional festivals
(C) Livelihood Impact – Creation of permanent government jobs for all displaced individuals
(D) Vulnerability Impact – Increased marginalization of women and elderly groups

77. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Integrating Gender Impact Assessment within the SIA is essential for equitable urban planning.
Reason (R): Women often bear disproportionate burdens during displacement, such as loss of informal livelihood, reduced access to basic resources, and safety concerns at resettlement sites.
(A) Both A and R are true and R is the correct

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(D) MP Vriksho Ka Parirakshan (Nagariya Kshetra) Adhiniyam (MP Tree Preservation Act)

104. Match the following authorities in List I with the legislation under which they operate or are constituted in List II:

List I: (Authority/Body)

P. State Pollution Control Board
Q. National Board for Wildlife
R. Coastal Zone Management Authority
S. Central Ground Water Authority

List II: (Associated Legislation)

1. Wildlife (Protection) Act, 1972
2. Water (Prevention and Control of Pollution) Act, 1974
3. Environment (Protection) Act, 1986
4. Environment (Protection) Act, 1986 (Delegation for groundwater)

(A) P-2, Q-1, R-3, S-4
(B) P-1, Q-2, R-4, S-3
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-1, S-4

105. Under the Eco-Sensitive Zone (ESZ) guidelines, which of the following is NOT considered a strictly prohibited activity?
(A) Commercial mining
(B) Organic farming by local communities
(C) Setting up of highly polluting industries
(D) Establishment of major hydroelectric projects

106. A thermal power plant is situated 40 km from a newly proposed Smart City project. Applying the Fly Ash Utilisation Notification conceptually, what mandate must the town planner enforce on the smart city's construction contractors?
(A) They must use exclusively red clay bricks to maintain heritage aesthetics in the smart city district
(B) They must utilize fly ash-based products (bricks, cement) for construction within the specified radius
(C) They must pay a significant environmental fine to the power plant for every clay brick used in the project
(D) They must transport the excess fly ash and dump it in the nearest river to clear the power plant site

107. What is the most appropriate role of the Madhya Pradesh Pollution Control Board (MPPCB) during the preparation of a Regional Plan?
(A) To provide consent inputs and ensure the regional plan adheres to environmental carrying capacity
(B) To solely design the road network and public transit routes across the entire planning region
(C) To act as the primary financial investor and promoter for regional real estate and housing projects
(D) To manage the public transport bus schedules and maintenance of transit hubs within the city limits

108. A developer applies for layout approval. The site plan reveals that the plot shares a boundary with a notified reserved forest. What is the town planning authority legally required to do before granting the approval?
(A) Approve the layout directly as urban land falls outside the legal jurisdiction of the Forest Department
(B) Ask the developer to cut down the forest trees to widen the access road and improve site accessibility
(C) Mandate a No Objection Certificate (NOC) from the Forest Department to ensure no violation of buffer norms
(D) Transfer the entire land ownership to the Forest Department immediately to prevent any future construction

109. What defines "Cumulative Impact Assessment" in regional environmental planning?
(A) Evaluating the environmental impact of a single project in isolation from other regional developments
(B) Calculating the cumulative financial cost of all building materials required for a regional project
(C) Assessing only the positive economic impacts of regional industrialization and urban infrastructure
(D) The process of assessing the combined environmental impacts of multiple past, present, and future actions

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84. During the implementation of a highway expansion, the affected community forms a blockade claiming the R&R colony lacks promised drinking water infrastructure. What is the role of SIA grievance redressal here?
(A) The police should arrest the community members for hindering a national project of strategic importance
(B) The town planner should unilaterally modify the Master Plan to exclude the R&R colony from the city limits
(C) The matter should be immediately transferred to the Supreme Court of India for a final constitutional ruling
(D) Investigate the grievance and compel the contractor to expedite water provision as per the SMP

85. According to the Bureau of Indian Standards (BIS), what is the acceptable limit for Total Dissolved Solids (TDS) in drinking water as per IS 10500?
(A) 100 mg/L
(B) 500 mg/L
(C) 1500 mg/L
(D) 2000 mg/L

86. Consider the following statements regarding Continuous Ambient Air Quality Monitoring Systems (CAAQMS):
1. They require manual sample collection and laboratory analysis every 8 hours.
2. They transmit real-time data to central servers for generating the Air Quality Index (AQI).
3. They can continuously monitor gaseous pollutants like SO2, NO2, and CO.
4. They are completely immune to calibration errors and do not require maintenance.

Which of the statements given above are correct?
(A) 1 and 4
(B) 2 and 3
(C) 1, 2, and 3
(D) 2, 3, and 4

87. Which of the following statements correctly describes the primary role of the Central Ground Water Board (CGWB) in environmental monitoring?
(A) It regulates the coastal navigation routes and international shipping lanes for hazardous cargo transport
(B) It solely oversees the construction and safety maintenance of large surface water dams across the country
(C) It is responsible for measuring noise pollution levels in silence zones and industrial corridors nationally
(D) It is the national agency entrusted with the monitoring, assessment, and management of groundwater quality

88. Which of the following pairs regarding ambient noise standards (Leq) is INCORRECTLY matched?
(A) Industrial Area (Day Time) – 75 dB(A)
(B) Commercial Area (Day Time) – 65 dB(A)
(C) Residential Area (Night Time) – 45 dB(A)
(D) Silence Zone (Night Time) – 40 dB(A)

89. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Town planning authorities increasingly require infrastructure projects to obtain a No Objection Certificate (NOC) from the CGWB or state groundwater authority.
Reason (R): Excessive extraction of groundwater by large residential and commercial projects can lead to severe aquifer depletion and deterioration of water quality.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

90. Read the following statements regarding soil contamination monitoring and select the correct option:
Statement I: Heavy metals like lead and cadmium in urban soils usually originate from vehicular emissions, industrial discharge, and poor waste management.
Statement II: Soil contamination monitoring is irrelevant in town planning because soil quality does not impact human health or groundwater.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are

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correct
(D) Both Statement I and Statement II are incorrect

91. Industrial hubs in Madhya Pradesh such as Pithampur and Mandideep are subject to strict ambient air quality monitoring. Which network primarily handles the real-time data aggregation for these zones?
(A) MPPCB through CAAQMS linked to CPCB
(B) Real Estate Regulatory Authority (RERA) Network
(C) MP State Tourism Board Database
(D) Narmada Control Authority Network

92. Match the water quality parameters in List I with their standard definitions or implications in List II:
List I: (Parameter)
P. Biochemical Oxygen Demand (BOD)
Q. Dissolved Oxygen (DO)
R. Total Suspended Solids (TSS)
S. Fecal Coliform
List II: (Definition/Implication)
1. Indicates contamination from human or animal waste
2. The amount of oxygen required by bacteria to decompose organic matter
3. Crucial for the survival of aquatic life
4. Particles in water that can be trapped by a filter
(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-1, R-4, S-3

93. Which of the following is NOT a typical corrective action protocol triggered by elevated environmental monitoring levels?
(A) Shutting down or limiting the production of a polluting industry
(B) Issuing health advisories to vulnerable populations
(C) Implementing emergency dust suppression measures (e.g., water sprinkling)
(D) Rewarding the polluting entity with tax breaks

94. A CAAQMS report for an urban node shows an AQI of 350 during winter. Applying standard protocols for such scenarios, what is the most appropriate action for a city planner?
(A) Encourage more open burning of solid waste to clear landfills
(B) Increase the speed limit on city roads to reduce traffic congestion times
(C) Halt all non-essential construction activities and restrict heavy diesel vehicle entry
(D) Deactivate the CAAQMS station as it is showing dangerously high numbers

95. What is the primary benefit of conducting a third-party environmental audit for an operational industrial park?
(A) It allows the industry to draft its own internal environmental laws without government oversight
(B) It provides an objective evaluation of the facility's compliance with regulations and the EMP
(C) It guarantees a significant increase in the annual production capacity of all onsite industrial units
(D) It replaces the need for monitoring by any governmental or state-level pollution control boards

96. A hospital in a densely populated town complains about continuous noise pollution from an adjacent metro-rail construction site during the night. As the town planner managing site compliance, what is the appropriate action?
(A) Inform the hospital that all major infrastructure projects are entirely exempt from state noise rules
(B) Relocate the entire hospital facility to the outskirts of the town to ensure a quiet environment
(C) Issue earplugs to the hospital staff and patients and allow construction to continue as scheduled
(D) Enforce the 40 dB(A) night-time limit by restricting machinery operations and installing barriers

97. Under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, which hierarchy is promoted for waste management?
(A) Prevention, Minimization, Reuse, Recycling, Recovery, Co-processing, and Safe Disposal

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(B) Bulk Disposal, Systematic Incineration, and Landfilling of all generated industrial waste materials
(C) International Import, Unregulated Dumping, and Open Burning of hazardous chemical by-products
(D) Manual Segregation, Ocean dumping, and Deep well injection of liquid hazardous waste streams

98. Consider the following statements regarding the Biological Diversity Act, 2002:
1. It aims at the conservation of biological resources and associated knowledge.
2. It mandates the establishment of Biodiversity Management Committees (BMCs) at local body levels.
3. Town planners must consider BMC registers before notifying greenfield land use changes in ecologically rich areas.
4. It restricts Indian citizens from researching any biological resources without central government approval.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 1, 2, and 3
(D) 2, 3, and 4

99. Which of the following statements correctly highlights the integration aspect of the Solid Waste Management Rules, 2016 in urban planning?
(A) It requires the Master Plan to allocate suitable land for setting up solid waste processing facilities
(B) It mandates urban local bodies to acquire land solely for open dumping and waste accumulation purposes
(C) It prohibits the use of compost in urban parks and residential gardens to prevent soil acidification
(D) It encourages the mixing of hazardous industrial waste with municipal solid waste for easier transport

100. Which of the following pairs regarding environmental penalties or authorities is INCORRECTLY matched?
(A) Environment (Protection) Act 1986 – Umbrella act allowing closure of defaulting industries
(B) National Green Tribunal (NGT) Act 2010 – Specialized judicial body for environmental disputes
(C) State Environment Impact Assessment Authority (SEIAA) – Established under EPA 1986 notifications
(D) Central Pollution Control Board (CPCB) – Created under the Air Act 1981 exclusively

101. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): The CRZ Notification 2019 provides relaxations for the construction of affordable housing and tourism infrastructure in coastal areas compared to previous notifications.
Reason (R): The government aims to promote sustainable coastal economy and livelihoods while balancing ecological concerns.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

102. Read the following statements regarding the Wetlands (Conservation and Management) Rules 2017 and select the correct option:
Statement I: Setting up of new industries and expansion of existing industries are strictly prohibited within notified wetlands.
Statement II: Traditional fishing and boating are generally permitted as regulated activities, provided they do not harm the ecosystem.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

103. In the context of Madhya Pradesh, if a developer wishes to cut down mature trees for a new residential layout in an urban area, what legal framework is strictly invoked?
(A) MP Lok Sewa Guarantee Act
(B) MP Municipal Corporation Act
(C) MP RERA Rules

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explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

78. Read the following statements regarding R&R entitlements and select the correct option:
Statement I: The LARR Act 2013 provides for a one-time resettlement allowance and an annuity policy for affected families.
Statement II: Displaced families are only entitled to financial compensation for the land value, with no provisions for housing or infrastructure at the resettlement site.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

79. In Madhya Pradesh, major irrigation projects like the Ken-Betwa link often trigger complex SIAs. What specific demographic is most frequently evaluated in the state's central and eastern project SIAs due to their high concentration?
(A) Coastal fishing communities
(B) Scheduled Tribes (ST) and forest-dwelling communities
(C) Plantation labor in tea estates
(D) Metro-rail commuters

80. Match the SIA and R&R terminologies in List I with their descriptions in List II:
List I: (Terminology)
P. Project Affected Family (PAF)
Q. Cut-off date
R. Vulnerable Group
S. Informed Consent
List II: (Description)
1. A demographic segment requiring special protection and assistance
2. Decision-making without coercion, based on full information disclosure
3. The date of publication of the preliminary notification for land acquisition
4. A family whose land, livelihood, or both are affected by the project
(A) P-4, Q-3, R-1, S-2
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-1, R-3, S-2
(D) P-1, Q-2, R-4, S-3

81. Free Prior and Informed Consent (FPIC) is a fundamental principle in SIA. Which of the following scenarios does it NOT typically apply to as a mandatory prerequisite under Indian law?
(A) Routine zoning changes in a fully developed metropolitan commercial district
(B) Acquisition of land in Fifth Schedule areas
(C) Diversion of traditional forest land governed by the Forest Rights Act
(D) Resettlement of indigenous tribal populations

82. An SIA identifies that a proposed dam will submerge the agricultural lands of 200 families. Applying the concept of livelihood restoration, which intervention is most structurally robust in the Social Management Plan?
(A) Providing a one-time payment equivalent to one month's minimum wage for each affected adult member
(B) Suggesting the families migrate to the nearest metropolitan city independently to find new employment
(C) Offering skill training, credit access, and allocation of alternative agricultural or commercial land
(D) Distributing free food grains for three months through the local public distribution system (PDS) outlet

83. What is the most appropriate approach for identifying and mapping vulnerable groups, such as the elderly and disabled, during a social baseline study?
(A) Conducting primary household surveys and participatory rural appraisals (PRA) within the community
(B) Relying solely on outdated decadal census data provided by the district statistical office
(C) Utilizing aerial satellite imagery and remote sensing technology to spot individual households
(D) Asking the local political representative to provide a verbal estimate of the population density

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110. Consider the following environmental conditions often stipulated in building permissions for large projects:
1. Implementation of rainwater harvesting structures.
2. Installation of dual plumbing systems for flushing using treated wastewater.
3. Mandatory provision for onsite solid waste segregation and organic waste composters.
4. Complete reliance on diesel generators for 100% baseline power supply.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 2, and 3
(D) 1, 3, and 4

111. Which of the following statements correctly highlights the benefit of integrating Sustainable Urban Drainage Systems (SUDS) or green infrastructure in urban projects?
(A) It accelerates the speed of water runoff to prevent groundwater recharge.
(B) It mitigates urban flooding by enhancing local infiltration and reducing peak runoff rates.
(C) It completely replaces the need for any paved roads.
(D) It increases the urban heat island effect significantly.

112. Which of the following pairs regarding the integration of environment in project phases is INCORRECTLY matched?
(A) Tender Documents – Inclusion of specific environmental clauses and penalty mechanisms
(B) Project Design – Integrating energy-efficient building orientation and passive cooling
(C) Operation Phase – Monitoring the efficiency of the onsite Sewage Treatment Plant
(D) Construction Phase – Demolishing historical heritage to create open green spaces

113. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Declaring green spaces as a mandatory land use category in Master Plans is critical for mitigating the Urban Heat Island (UHI) effect.
Reason (R): Vegetation provides shade, reduces surface temperatures, and cools the surrounding air through evapotranspiration.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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114. Read the following statements regarding operation phase environmental management and select the correct option:
Statement I: Environmental management concludes entirely once the construction of the project is finished and the occupancy certificate is issued.
Statement II: Operation phase management includes continuous monitoring of waste disposal, energy usage, and STP effluent quality.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

115. Under the Madhya Pradesh Bhumi Vikas Niyam, specific provisions are integrated to ensure environmental sustainability. Which of the following is a mandatory environmental requirement for large plot approvals in MP?
(A) Provision of Rainwater Harvesting (RWH) systems based on roof area thresholds
(B) 100% concrete paving of open areas to prevent dust
(C) Mandatory installation of underground diesel storage tanks
(D) Ban on planting indigenous tree species

116. Match the urban infrastructure projects in List I with the specialized environmental NOC or Clearance they most likely require in List II:
List I: (Urban Infrastructure Project)
P. Large scale groundwater extraction for a mall
Q. Felling of 50 mature trees for road widening
R. Establishing a solid waste landfill site
S. Development within 5 km of a National Park

65. Given below are two statements, one is labelled as Assertion (A) and the other as Reason (R):
Assertion (A): Post-clearance monitoring is a critical component of the EIA framework.
Reason (R): It ensures that the project proponent strictly adheres to the stipulated conditions of the Environmental Clearance and the EMP during construction and operation.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

66. Read the following statements regarding compliance with Environmental Clearance (EC) conditions and select the correct option:
Statement I: Compliance reports must be uploaded on the website of the regulatory authority and the project proponent to ensure public transparency.
Statement II: Failure to comply with clearance conditions cannot lead to the revocation of the environmental clearance once it is granted.
(A) Statement I is correct and Statement II is incorrect
(B) Statement II is correct and Statement I is incorrect
(C) Both Statement I and Statement II are correct
(D) Both Statement I and Statement II are incorrect

67. In Madhya Pradesh, the State Expert Appraisal Committee (SEAC) is constituted to assist the MPSEIAA. Who predominantly makes up the composition of the SEAC?
(A) Independent technical experts, environmentalists, and academicians
(B) Sitting MLAs and MPs of the state
(C) Only the Chief Engineers of the Public Works Department
(D) Executives from the major private mining companies in the state

68. Match the project types in List I with their likely EIA category or process under the standard MoEFCC framework in List II:
List I: (Project Type)
P. Large-scale Nuclear Power Plant
Q. Minor mineral mining (<5 hectares)
R. Mid-sized Township (Category B1)
S. Projects exempt from Public Hearing
List II: (EIA Process/Category)
1. Scoping, EIA preparation, and Public Hearing required at the State level
2. Category A, requiring Central Government appraisal
3. Often appraised as B2, bypassing detailed EIA
4. Building and Construction projects under standard area thresholds
(A) P-2, Q-3, R-1, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-4, Q-3, R-2, S-1

69. Which of the following is NOT typically a factor considered during the 'screening' stage of an EIA?
(A) The spatial extent and capacity of the project
(B) Whether the project falls under Category A or B of the EIA Notification
(C) The location of the project relative to eco-sensitive areas
(D) The detailed formulation of the post-project rehabilitation fund

70. A planner is collecting baseline environmental data for a proposed cement plant. Conceptually, how is the core "study area" for air quality impact typically delineated?
(A) Strictly the land acquired for the plant boundary and administrative offices of the project proponent
(B) The entire administrative district where the project is located, regardless of atmospheric conditions
(C) A radial distance from the project boundary determined by regulatory guidelines and dispersion potential
(D) Only the nearest urban agglomeration within the state, completely ignoring surrounding rural zones

71. What is the most appropriate primary purpose of conducting 'scoping' in the EIA process?
(A) To issue the final environmental clearance once the project documentation has been fully submitted
(B) To determine the market value of the land

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ANSWERS

1. (A) To evaluate and mitigate the biophysical and social impacts of development proposals before decision-making
The Environmental Impact Assessment is a systematic tool designed to anticipate the environmental consequences of a proposed development project. It functions as a preventative mechanism by identifying potential biophysical and social risks before any final decisions are made. This process enables planners to propose effective mitigation strategies, ensuring that urbanization proceeds without causing irreversible damage to the ecosystem.

2. (A) 1, 2, and 4
Project categorization determines the level of regulatory scrutiny required for environmental clearance. Category A projects are evaluated by the central ministry, while Category B projects undergo appraisal at the state level. Specifically, B2 projects are generally considered to have fewer environmental risks, allowing them to proceed without the extensive public consultation process typically mandated for larger-scale developments.

3. (A) It records the existing environmental status of the study area before project commencement
The baseline study constitutes a foundational step in the assessment process, focusing on documenting the current state of the environment. By surveying air quality, water resources, and biodiversity before any construction activity begins, planners establish a reference point. This data is essential for predicting future changes and measuring the actual impact of the project once implementation starts.

4. (D) Impact Prediction – Assessing the future state of the environment without the proposed project
Impact prediction involves forecasting the potential changes to the environment resulting from a proposed project compared against the baseline. It does not merely look at the environment without the project; rather, it models how development will alter existing conditions. This quantitative and qualitative analysis helps in designing mitigation measures to handle specific negative outcomes identified during the modeling phase.

5. (D) A is false but R is true.
Public consultation is a vital phase for gathering local insights and addressing the grievances of residents directly affected by a project. While it is mandatory for most large-scale developments to ensure transparency and social inclusivity, there are specific legal exceptions where this step might be waived. Therefore, the assertion regarding its universal applicability for all sub-categories is technically inaccurate.

6. (B) Statement II is correct and Statement I is incorrect
Strategic Environmental Assessment operates at a higher administrative level compared to project-specific evaluations. It is designed to integrate sustainability principles into the formulation of broader policies, regional plans, and sectoral programs. By addressing environmental issues during the early planning stages of government initiatives, it ensures that long-term ecological goals are considered before individual infrastructure projects are even proposed.

7. (D) State Environment Impact Assessment Authority (MPSEIAA)
In Madhya Pradesh, the State Environment Impact Assessment Authority is the designated body for reviewing development proposals categorized as B. It functions based on the recommendations provided by the State Level Expert Appraisal Committee. This decentralized approach allows for a more detailed review of regional projects, ensuring that local environmental standards and state-specific ecological sensitivities are properly addressed.

8. (A) P-2, Q-1, R-4, S-3
An Environmental Management Plan outlines specific operational steps to manage ecological impacts. Mitigation measures like dust suppression directly reduce construction-related pollution, while environmental monitoring systems like air quality stations track ongoing

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73. (B) An action plan detailing mitigation measures for social impacts and the mechanism for implementing R&R
A Social Management Plan is a strategic document that outlines how the social consequences of a project will be addressed. It details the specific mitigation measures for identified impacts and provides a structured plan for the rehabilitation and resettlement of affected families. This document is essential for ensuring that the development is socially sustainable and that the community's welfare is prioritized.

74. (A) 1, 2, and 4
Legislation regarding land acquisition broadly defines who is considered an affected family. This includes not only the legal owners of the land but also those whose livelihoods are dependent on it, such as agricultural laborers and tenants. Special provisions ensure that even those without formal title deeds, such as certain forest-dwelling communities, are recognized and provided with proper compensation and rehabilitation.

75. (A) It mandates consultation with the Gram Sabha before initiating land acquisition and R&R in Scheduled Areas
In Scheduled Areas, specific laws empower local community bodies to participate in decision-making regarding their land. Before any land acquisition or rehabilitation begins, the government must consult with the local Gram Sabha. This ensures that the development process respects the traditional rights and cultural values of tribal populations, making them active stakeholders in projects that affect their ancestral territories.

76. (C) Livelihood Impact – Creation of permanent government jobs for all displaced individuals
Social impacts are categorized by their specific effect on communities. Displacement involves the loss of homes, while cultural impacts disrupt social networks and traditions. Vulnerability impacts highlight the increased risks faced by marginalized groups. Livelihood impacts generally involve the loss of income sources, and while mitigation may include job creation, it does not guarantee permanent government employment for every individual.

77. (A) Both A and R are true and R is the correct explanation of A.
Integrating gender considerations into social assessments is vital because men and women experience displacement differently. Women often face greater challenges in restoring their informal livelihoods and accessing essential resources like water and fuel in new locations. By evaluating these specific impacts, planners can design resettlement sites that are safer and more accessible, ensuring that the development process is equitable.

78. (A) Statement I is correct and Statement II is incorrect
Modern resettlement policies go beyond simple cash payments for land. They provide a comprehensive package of entitlements, including one-time allowances and long-term financial support through annuity policies. Furthermore, these laws mandate the provision of actual housing and necessary infrastructure at the resettlement site, ensuring that displaced families can rebuild their lives with access to basic services and a stable environment.

79. (B) Scheduled Tribes (ST) and forest-dwelling communities
Large-scale irrigation and river projects in central India often impact regions with significant indigenous populations. These social assessments must carefully evaluate the effects on Scheduled Tribes and forest-dwelling communities who have deep cultural and economic ties to the land. Protecting these groups is a primary concern in the state's planning process, necessitating detailed strategies for livelihood restoration and cultural preservation.

80. (A) P-4, Q-3, R-1, S-2
SIA terminology defines the key roles and timelines in the rehabilitation process. Project affected families include those losing land or livelihoods. The cut-off date sets a deadline for determining eligibility for compensation. Vulnerable groups are identified for special assistance, and the principle of informed consent ensures that communities make decisions based on clear and complete information regarding the project's consequences.

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table are primarily considered biophysical or environmental impacts, although they may indirectly influence social outcomes.

17. (A) Both A and R are true and R is the correct explanation of A.
In Scheduled Areas, legal protections for tribal communities are significantly enhanced to safeguard their unique cultural identity and land-based livelihoods. Land acquisition in these regions requires the free, prior, and informed consent of the local population through their representative bodies. This ensures that the rights of indigenous people are upheld and that they are active participants in the development process.

18. (A) Statement I is correct and Statement II is incorrect
The rehabilitation and resettlement plan is a comprehensive strategy designed to restore the quality of life for displaced families. It focuses on providing sustainable livelihood options, such as employment or vocational training, alongside physical housing. Unlike internal project plans, this is a formal legal requirement coordinated with government authorities to ensure that all social welfare mandates under the law are fulfilled.

19. (A) Narmada Valley Development Project
The Narmada Valley Development Project is a significant historical example of large-scale infrastructure development that triggered extensive social debates. The massive displacement of tribal and rural communities highlighted the urgent need for robust social impact assessments and fair rehabilitation policies. This experience played a crucial role in shaping contemporary Indian laws regarding land acquisition and the protection of vulnerable populations.

20. (A) P-4, Q-2, R-3, S-1
SIA must address the specific needs of different demographic groups to ensure equitable outcomes. Elderly populations require barrier-free environments, while women benefit from joint-titling of assets to ensure financial security. Scheduled Tribes need protections for their cultural heritage, and landless laborers require livelihood restoration strategies that go beyond land-based compensation, such as skill development and access to new employment opportunities.

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21. (B) Detailed engineering drawings of the project machinery
A Social Management Plan is an action-oriented document that details how negative social impacts will be mitigated. It includes institutional mechanisms for implementing rehabilitation programs and establishes grievance redressal systems for affected persons. While it is linked to the overall project, it focuses on human and community aspects rather than the technical engineering specifications or the internal design of machinery.

22. (C) Evaluating safety, pedestrian lighting, and accessibility of transit hubs for female commuters
Gender Impact Assessment within urban planning ensures that infrastructure serves all citizens safely and equitably. For transit-oriented developments, this involves evaluating how specific design features, such as lighting and pedestrian paths, affect the mobility and safety of female commuters. By focusing on these factors, planners can create more inclusive urban environments that address the unique needs and vulnerabilities of women.

23. (A) 2-4-1-3
The assessment process under land acquisition laws follows a structured timeline to ensure community participation. It begins with a formal notification by the government, followed by public hearings to gather resident feedback. Based on these inputs, a management plan is prepared to address identified impacts. Finally, an independent expert group appraises the study to ensure its findings and recommendations are sound.

24. (A) Activate the grievance redressal mechanism and mandate an independent audit of the R&R disbursement
Effective social management requires continuous monitoring of the rehabilitation process to ensure that all affected persons receive their entitlements. When complaints arise regarding the non-receipt of compensation by vulnerable groups like landless laborers, the appropriate response is to activate the formal grievance

41. (A) Both A and R are true and R is the correct explanation of A.
The conversion of forest land for non-forestry purposes is strictly controlled at the national level. State governments are prohibited from de-reserving forests or diverting these areas for urban projects without receiving prior clearance from the central government. This centralized oversight ensures that any loss of forest cover is carefully evaluated and compensated for, maintaining national ecological balance and biodiversity.

42. (A) Statement I is correct and Statement II is incorrect
Wildlife protection laws impose stringent restrictions on development within and around protected areas. Commercial industrial activities are prohibited inside the core zones of national parks to prevent habitat destruction and disturbance to wildlife. Furthermore, the boundaries of these protected regions are legally defined and cannot be altered by local municipal officials through simple executive orders, requiring higher-level legislative or judicial approval.

43. (A) Eco-Sensitive Zone (ESZ)
Preserving the ecological integrity of biosphere reserves involves creating specialized buffer regions with regulated land use. These areas are notified by the central ministry to control activities that could harm the sensitive environment of the protected core. This planning intervention ensures that the unique biodiversity and natural features of regions like Pachmarhi are shielded from the pressures of unregulated urban expansion.

44. (A) P-4, Q-3, R-2, S-1
Environmental regulations target specific waste streams and ecosystems to ensure sustainable management. Hazardous waste rules focus on the safe handling of toxic industrial materials, while coastal notifications regulate development near the sea. Specialized rules also promote the reuse of industrial by-products like fly ash in construction and protect vital wetlands and Ramsar sites from encroachment and pollution.

45. (D) Construction of traditional coastal fishing community housing within permissible limits
Coastal regulation zones categorize areas based on their ecological sensitivity. In the most sensitive zones, most industrial activities and large-scale waste disposal are strictly prohibited to protect the marine environment. However, certain traditional activities, such as the construction of housing for local fishing communities, are generally allowed within specified limits to support the livelihoods and culture of indigenous coastal residents.

46. (C) Fly Ash Utilisation Notification
Construction projects located within a certain radius of coal-based power plants are subject to specific mandates regarding material usage. To reduce industrial waste and preserve topsoil, these projects are required to utilize bricks and cement made from fly ash. This policy promotes the circular economy by turning a power plant by-product into a useful resource for urban infrastructure development.

47. (A) 2-3-4-1
India's environmental legal framework developed over several decades, starting with water pollution control in the mid-seventies. This was followed by the forest conservation act at the start of the eighties and air pollution legislation shortly after. The comprehensive umbrella act for environmental protection was enacted in the mid-eighties, providing a unified structure for managing diverse ecological challenges across the nation.

48. (D) Reject the project as conversion of wetlands for non-wetland uses is strictly prohibited
Wetland conservation rules strictly prohibit the conversion of these vital ecosystems for non-wetland uses, such as residential or commercial real estate. Town planners must reject proposals that involve reclaiming or building on marshlands identified in national inventories. Protecting these areas is essential for flood control, groundwater recharge, and biodiversity, and their destruction cannot be justified through the payment of fines.

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33. (A) Issuing direct punitive fines to polluting industries
The National Environment Information System serves as a comprehensive hub for environmental data and research. Its primary functions include the collection, collation, and dissemination of information through web-based databases and newsletters. While it supports informed policy-making and scientific study, it is an information-sharing network rather than a regulatory or enforcement body, and thus does not issue punitive fines to industries.

34. (C) Initiate emergency treatment and report the breach to the State Pollution Control Board
When monitoring data indicates that effluent discharge has exceeded safe environmental thresholds, immediate corrective protocols must be followed. This involves initiating emergency treatment processes to reduce the concentration of pollutants and formally reporting the incident to the state regulatory authority. Such actions prevent further environmental degradation and ensure that the facility remains compliant with its operational permits and safety standards.

35. (B) 1-2-4-3
Conducting an independent environmental audit follows a systematic procedure to ensure objectivity and accuracy. The process starts with selecting an accredited auditor who begins by reviewing the project's legal conditions and baseline data. This is followed by on-site inspections and sampling to evaluate actual performance. Finally, the findings are used to develop corrective action plans to address any non-compliance.

36. (D) Integrate the historical data into a Geographic Information System (GIS) to analyze spatial pollution trends
Managing long-term environmental data requires advanced analytical tools to identify patterns and inform future city planning. Integrating historical air and water quality measurements into a geographic information system allows planners to visualize spatial trends in pollution. This approach facilitates a deeper understanding of how urban growth impacts the environment, enabling the development of more effective and sustainable master plans.

37. (B) A buffer region around protected areas like National Parks to act as a transition zone
Eco-Sensitive Zones are established as buffer regions surrounding protected areas like national parks and wildlife sanctuaries. Their primary function is to act as a transition zone where human activities are regulated to minimize negative impacts on the core conservation area. These zones allow for a balance between local community needs and the preservation of fragile ecosystems from large-scale industrial development.

38. (A) 1, 2, and 4
Enacted after a major industrial disaster, this legislation provides a comprehensive framework for environmental protection in India. It grants the central government broad powers to set quality standards, regulate hazardous substances, and issue directions for the closure of polluting units. It serves as the foundation for numerous specific regulations, including those governing environmental impact assessments and the management of coastal regions.

39. (D) It mandates prior consent from the State Board for establishing any industry discharging effluent into a stream.
Water pollution control legislation focuses on maintaining the quality of streams and wells. A key requirement is obtaining prior consent from the state pollution control board before establishing any industrial unit that will discharge effluent into water bodies. This allows the government to review waste treatment plans and set specific standards for discharge, ensuring that industrial growth does not compromise the ecosystem.

40. (A) Biological Diversity Act, 2002 – Regulates the manufacture and use of hazardous chemicals
Various environmental laws in India address specific ecological issues. For instance, legislation concerning biological diversity focuses on the conservation and sustainable use of natural resources and traditional knowledge. Other rules regulate the diversion of forest land for development or protect wildlife species and wetlands. Regulations for the manufacture and handling of hazardous chemicals are governed under separate environmental protection frameworks.

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compliance. Capacity building focuses on training personnel to handle waste properly, and emergency response plans provide structured evacuation routes and safety protocols for potential industrial hazards or accidents.

9. (B) The detailed financial profit margins of the project proponent
An Environmental Impact Statement is a technical document focused on ecological and social consequences. It includes detailed descriptions of the project, potential environmental changes, and proposed mitigation measures to protect natural resources. While it evaluates the viability and impact of various project alternatives, it does not involve the disclosure of the private developer's internal financial profit margins or business budgets.

10. (B) Category B1, requiring a detailed EIA and SEIAA clearance
Large-scale township and area development projects exceeding specific spatial and built-up area thresholds are classified under Category B1. This classification necessitates a comprehensive environmental impact assessment and a formal public hearing. These projects are appraised by state-level bodies to ensure that the infrastructure for sewage, water, and solid waste management is sufficient to handle the anticipated urban population.

11. (A) 2-4-3-1
The assessment process follows a logical sequence starting with screening to categorize the project. This is followed by scoping to define the terms of reference for the study. Once the study is complete, public consultation allows for community feedback on the findings. Finally, the expert committee conducts a detailed appraisal of all documentation before recommending the project for environmental clearance.

12. (C) Once every six months
Post-clearance monitoring requires project proponents to submit regular compliance reports to the regulatory authorities. This ensures that the environmental safeguards and mitigation measures promised during the appraisal phase are being implemented effectively. The standard regulatory requirement mandates that these reports be submitted every six months, allowing the government to track the project's environmental performance throughout the construction and operational phases.

13. (D) A process to evaluate and mitigate the social consequences of infrastructure projects on affected communities
Social Impact Assessment is a systematic process used to identify and manage the social consequences of planned development interventions. In the context of land acquisition, it focuses on understanding how infrastructure projects affect the livelihoods, culture, and community cohesion of local residents. The goal is to maximize positive outcomes and mitigate the negative effects of displacement on the affected population.

14. (A) 1, 2, and 3
The current land acquisition legislation emphasizes transparency and the welfare of affected communities. It mandates a detailed social impact assessment to evaluate the project's necessity and social cost. Key provisions include strict timelines for completing studies and obtaining specific consent percentages from affected families when land is acquired for private entities, ensuring that the rights of local residents are protected.

15. (B) To record the demographic and socio-cultural profile of the community before project implementation
The social baseline study is a critical component of the assessment process that captures the existing socio-economic conditions of a community. By documenting demographic data, income levels, and cultural practices before a project begins, it creates a benchmark for future comparison. This data is essential for determining the appropriate level of compensation and designing effective rehabilitation and resettlement programs.

16. (D) Cultural Impact – Alteration of the groundwater table affecting crop yield
Social impacts are categorized based on their direct effect on human communities and their well-being. While displacement impacts involve physical relocation and livelihood impacts involve loss of income sources, cultural impacts focus on changes to social networks and heritage. Impacts such as alterations in the groundwater

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49. (A) Integrating environmental protection and sustainability into all sectoral policies and spatial planning
Mainstreaming the environment involves a holistic approach where ecological sustainability is not an isolated concern but a core component of all planning. It means that every sectoral policy, from transportation to housing, must integrate environmental protection goals. By incorporating these principles into spatial planning and land use decisions, cities can achieve long-term resilience and minimize the negative impacts of urbanization.

50. (B) 1, 3, and 4
Environmental zoning is a strategic planning tool used to organize land use in a way that minimizes ecological damage and health risks. It designates specific areas for heavy industry away from housing and creates corridors for green infrastructure. Additionally, it identifies critical groundwater recharge zones where construction is restricted to ensure the long-term sustainability of water resources for the city.

51. (A) They act as carbon sinks, improve micro-climate, and provide recreational areas for citizens.
The inclusion of green spaces in urban layouts is essential for creating a healthy and sustainable living environment. These areas serve multiple ecological functions, including acting as carbon sinks and cooling the local micro-climate through natural processes. Beyond their environmental benefits, they provide vital recreational opportunities for residents, improving the overall quality of life and well-being in densely populated cities.

52. (D) Operation Phase Management – Monitoring dust emissions from excavation equipment
Integrating environmental considerations into project phases involves specific actions at each stage. During design, planners focus on energy efficiency and green infrastructure, while layout approval secures open spaces. Tree preservation orders protect existing vegetation. However, monitoring dust and emissions from heavy machinery is a management task specifically associated with the construction phase, rather than the long-term operational phase of a project.

53. (A) Both A and R are true and R is the correct explanation of A.
Designing the environmental management plan during the early stages of project development is highly effective. It allows for the physical integration of mitigation features, such as natural drainage or noise barriers, directly into the site plan. This proactive approach is more cost-effective than retrofitting solutions after construction has begun, ensuring that both environmental and financial goals are met simultaneously.

54. (A) Statement I is correct and Statement II is incorrect
Green infrastructure utilizes natural elements like vegetation and soil to manage environmental challenges, particularly stormwater. By promoting infiltration and natural filtration, it reduces the burden on traditional drainage systems and helps prevent urban flooding. This approach is widely considered more sustainable than relying exclusively on conventional concrete pipe networks, which often lack the flexibility to handle extreme weather events.

55. (D) Declaring its catchment area as a no-construction buffer zone under specific conservation guidelines
Conserving critical water bodies like the Upper Lake in Bhopal requires strong planning interventions that prioritize ecological health over commercial gain. This is achieved by designating the catchment area as a no-construction buffer zone. Such measures prevent the encroachment of urban development and protect the water quality from pollution, ensuring the lake continues to serve its vital ecological functions.

56. (A) P-2, Q-3, R-4, S-1
Environmental management is integrated across all stages of project implementation. During the tender process, environmental requirements are made legally binding for contractors. Pre-construction involves obtaining necessary permits and site preparation. The construction phase focuses on active pollution control, such as dust suppression. Finally, the operation phase ensures that residents follow long-term sustainability practices, such as proper waste management and recycling.

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57. (B) Environmental supervision of heavy earth-moving excavation
The operation phase of a residential development involves the long-term maintenance of environmental infrastructure. This includes managing sewage treatment plants, rainwater harvesting systems, and waste segregation programs to ensure ongoing sustainability. Activities such as heavy earth-moving excavation and site clearing are temporary tasks associated with the construction phase and are not part of the standard operational management of a township.

58. (B) Cumulative Impact Assessment
Regional planning must account for the total stress placed on the environment by multiple developments. Instead of looking at individual projects in isolation, planners use cumulative impact assessment to evaluate how the combined effects of several activities influence local resources like water and air. This broader perspective is essential for ensuring that the total development does not exceed the environment's carrying capacity.

59. (A) 2-4-3-1
Ensuring compliance during construction follows a chronological path. It begins with setting clear expectations in contract documents. Before work starts, the site must be secured and sensitive areas protected. During the building phase, regular monitoring and supervision track environmental performance. The process concludes with site demobilization, where the area is cleaned and landscaping is restored to its final intended state.

60. (C) Mandate the integration of rainwater harvesting structures as a strict condition for building permission
In areas with critical water shortages, town planners play a key role in enforcing conservation standards. When a project application fails to include necessary groundwater recharge features, the planner must mandate their inclusion as a condition for approval. This ensures that new commercial developments contribute to the replenishment of aquifers, aligning project design with the long-term environmental needs of the city.

61. (D) A document outlining the scope and methodologies to be followed during the EIA study
Terms of Reference serve as a vital guiding document for conducting a thorough impact assessment. It specifies the particular environmental issues, geographical boundaries, and scientific methodologies that the study must address. By outlining these requirements at the start, the document ensures that the final report provides decision-makers with the precise information needed to evaluate the project's potential ecological and social consequences.

62. (A) 1, 2, and 4
The Expert Appraisal Committee is a specialized group that evaluates large-scale development proposals at the national level. It includes experts from various scientific and social disciplines who review impact reports and community feedback. Their recommendations form the basis for the government's decision on environmental clearance. While influential, the committee operates within a specific regulatory framework and does not possess supreme judicial powers.

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63. (B) It communicates the findings of the EIA study, detailing impacts and mitigation measures to decision-makers
The Environmental Impact Statement is the primary communication tool used to present the findings of an assessment study. It provides a detailed account of the anticipated environmental changes and the strategies proposed to manage them. By making this information accessible to regulators and the public, it ensures that project decisions are based on a transparent evaluation of ecological and social risks.

64. (D) Sub-surface Geology – Anemometers and wind vanes
Collecting baseline environmental data requires specific scientific instruments for different parameters. High volume samplers measure air quality, while quadrat sampling is used for ecological surveys. Sound level meters accurately capture the noise environment. However, anemometers and wind vanes are meteorological tools used to measure wind speed and direction, rather than for investigating the sub-surface geological characteristics of a site.

65. (A) Both A and R are true and R is the correct explanation of A.
Post-clearance monitoring is a fundamental part of the environmental regulatory framework. It provides a mechanism for verifying that the developer is fulfilling the specific conditions and mitigation measures outlined in the clearance document. This continuous oversight throughout the construction and operation phases ensures that the project remains within its approved environmental limits and does not cause unforeseen damage to the ecosystem.

66. (A) Statement I is correct and Statement II is incorrect
Transparency is a key requirement for environmental compliance. Project developers must make their compliance reports publicly available by uploading them to official websites. This allows for public oversight and ensures that the regulatory conditions are being met. Furthermore, authorities have the power to revoke a project's environmental clearance if the developer fails to adhere to the mandated safeguards and mitigation measures.

67. (A) Independent technical experts, environmentalists, and academicians
The State Expert Appraisal Committee provides technical support for evaluating regional development projects. Its composition is primarily made up of independent professionals, including scientists, academicians, and environmental experts. This ensures that the appraisal process is based on objective scientific analysis rather than political or commercial interests, leading to more informed and sustainable decisions regarding environmental clearances at the state level.

68. (A) P-2, Q-3, R-1, S-4
Project categorization dictates the specific appraisal path and the level of government involvement. Highly sensitive projects like nuclear power plants require central government review, while mid-sized townships are managed at the state level with full assessment reports. Smaller projects with lower impacts, such as minor mining operations, may follow a simplified process that bypasses the need for a detailed study.

69. (D) The detailed formulation of the post-project rehabilitation fund
Screening is the initial stage where the necessity and level of an impact assessment are determined. This decision is based on factors like the project's size, its specific category under the law, and its proximity to sensitive ecological areas. While it sets the stage for further study, it does not involve the detailed planning of future financial funds for project rehabilitation.

70. (C) A radial distance from the project boundary determined by regulatory guidelines and dispersion potential
The study area for air quality assessments is determined by the potential for pollutants to spread from the project site. Instead of following administrative boundaries, planners use radial distances and mathematical dispersion models to define the zone where impacts are likely to be felt. This ensures that all potentially affected communities and ecosystems are included in the environmental baseline and impact analysis.

71. (D) To identify the key environmental issues and impacts requiring detailed investigation in the EIA study
Scoping is a critical step that focuses the assessment on the most significant environmental concerns. By identifying key issues early in the process, it ensures that the subsequent study is comprehensive yet efficient. This stage defines the specific tasks and data requirements for the project, preventing the waste of resources on minor issues and ensuring that critical impacts are thoroughly investigated.

72. (A) Record the concerns and mandate the proponent to address odor-control in the final EIA/EMP
Public hearings provide a platform for residents to express their concerns regarding a project's impact. When specific issues like odor pollution are raised, the regulatory panel must document these points and require the developer to include effective control measures in the final management plan. This collaborative approach addresses community grievances while ensuring that the project incorporates necessary technological solutions for mitigation.

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mechanism. This allows for an independent audit of disbursements and ensures that the project remains socially compliant.

25. (B) 60 $\mu g/m^3$
National air quality standards are established to protect public health and the environment from the harmful effects of pollutants. For fine particulate matter, which can penetrate deep into the lungs, strict concentration limits are set. In areas designated as ecologically sensitive, the 24-hour permissible limit for this pollutant is maintained at a level that ensures minimal disruption to local biodiversity.

26. (B) 1, 3, and 4
Noise pollution is regulated through specific ambient standards that vary based on land use. Industrial areas are permitted higher decibel levels during the day, while residential and silence zones have much stricter limits to ensure peace and health. Silence zones, which extend around hospitals and schools, require the lowest noise levels, especially at night, to prevent disturbance to occupants.

27. (A) Biological Oxygen Demand (BOD), Dissolved Oxygen (DO), and Fecal Coliform are primary indicators.
Water quality monitoring in rivers utilizes specific indicators to assess pollution levels and ecological health. Primary parameters like biological oxygen demand and dissolved oxygen are used to measure the amount of organic pollution and the water's ability to support aquatic life. Additionally, fecal coliform levels indicate contamination from human waste, helping authorities determine if the water meets safety standards.

28. (C) Dissolved Oxygen – Primary indicator of soil fertility
Soil monitoring involves analyzing various chemical and physical properties to detect contamination from industrial and agricultural activities. Common parameters include heavy metal concentrations, pesticide residues, and acidity levels. While dissolved oxygen is a critical indicator for water quality and aquatic health, it is not used as a primary measure for evaluating soil fertility or contamination levels in terrestrial environments.

29. (A) Both A and R are true and R is the correct explanation of A.
Modern urban planning emphasizes the use of automated monitoring systems to track environmental health. These systems offer significant advantages over traditional manual methods by providing continuous, real-time data on pollutant concentrations. This immediate information flow allows city authorities to issue timely health warnings to the public and implement rapid response measures when pollution levels exceed safe limits during severe episodes.

30. (A) Statement I is correct and Statement II is incorrect
The management of underground water resources is centralized under a specialized national agency. This body is responsible for mapping aquifers and monitoring water quality across various regions. A key part of its mandate is tracking both man-made pollutants and naturally occurring contaminants, such as fluoride and arsenic, which can pose significant health risks to communities relying on groundwater for drinking.

31. (B) Madhya Pradesh Pollution Control Board (MPPCB)
The protection of river basins in Madhya Pradesh involves regular monitoring of pollution levels to ensure compliance with environmental laws. The state's dedicated pollution control board operates an extensive network of monitoring stations along major rivers like the Narmada and Chambal. This organization collects data on various water quality parameters, providing the necessary information for regional planning and environmental management.

32. (A) P-3, Q-2, R-1, S-4
Environmental management utilizes various technical tools to monitor and manage data. Remote sensing is used for large-scale mapping of land use changes, while automated stations provide real-time tracking of atmospheric pollutants. Specialized information systems disseminate environmental data to the public and researchers, and integrated databases use spatial technology to store and analyze environmental audits, aiding in informed urban decision-making.

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81. (A) Routine zoning changes in a fully developed metropolitan commercial district
The principle of free, prior, and informed consent is a mandatory requirement in specific ecologically and culturally sensitive contexts. It is essential when acquiring land in Scheduled Areas or diverting traditional forest land. However, this level of formal consent is not typically a legal prerequisite for routine zoning changes in already established metropolitan commercial districts, where standard urban planning procedures apply.

82. (C) Offering skill training, credit access, and allocation of alternative agricultural or commercial land
Livelihood restoration for families losing agricultural land requires long-term, sustainable solutions rather than simple one-time payments. A robust management plan focuses on providing alternative land or comprehensive skill training and credit access to help families transition to new economic activities. This approach ensures that the affected population can maintain their standard of living and achieve economic independence after being displaced.

83. (A) Conducting primary household surveys and participatory rural appraisals (PRA) within the community
Identifying vulnerable groups within a community requires direct engagement and primary data collection. Planners use household surveys and participatory appraisal techniques to understand the specific needs of the elderly, disabled, and other marginalized residents. This localized approach provides more accurate and current information than outdated census records or remote sensing, allowing for the design of more effective social mitigation.

84. (D) Investigate the grievance and compel the contractor to expedite water provision as per the SMP
Grievance redressal mechanisms are essential for resolving conflicts during the implementation of resettlement plans. When a community reports that promised infrastructure is missing, the appropriate response is to investigate the claim and ensure that the project proponents fulfill their legal obligations. By addressing these issues promptly, planners can ensure that the social management plan is implemented correctly and maintain community trust.

85. (B) 500 mg/L
Drinking water quality in India is governed by specific standards that define the permissible limits for various physical and chemical parameters. For total dissolved solids, which indicate the concentration of minerals and salts in the water, an acceptable limit is established to ensure palatability and health. Water exceeding this baseline requires treatment to make it safe and suitable for consumption.

86. (B) 2 and 3
Continuous air monitoring systems provide a significant technological upgrade for tracking urban pollution. These automated stations eliminate the need for manual sampling by continuously measuring gaseous and particulate pollutants. They transmit real-time data to central servers, which is used to calculate the Air Quality Index and inform the public. Regular maintenance and calibration remain necessary to ensure data accuracy over time.

87. (D) It is the national agency entrusted with the monitoring, assessment, and management of groundwater quality
The national agency for groundwater is responsible for the scientific management and monitoring of underground water resources. Its mandate includes assessing water levels and quality across the country to ensure sustainable usage. This body plays a critical role in urban planning by providing the data needed to regulate extraction and protect aquifers from depletion and contamination by industrial activities.

88. (C) Residential Area (Night Time) – 45 dB(A)
Ambient noise standards are defined for different zones to protect human health and ensure comfort. Residential areas have specific limits for both day and night to prevent sleep disturbance. While daytime limits are higher to accommodate normal activity, the night-time standard is set at a much lower level. Exceeding these baseline values can lead to negative health outcomes for local residents.

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industrial corridor overlaps with an eco-sensitive zone, the project must be realigned to avoid the protected area. This ensures that economic growth proceeds without violating national environmental laws and that the critical buffer zones surrounding protected habitats remain intact for long-term conservation.

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environmental risks. The preferred approach starts with preventing waste generation and proceeds through minimization, reuse, and recycling. When waste is produced, recovery and co-processing are prioritized, with safe disposal in secured facilities being the final option. This structured system ensures that toxic industrial materials are handled in the most sustainable manner.

98. (C) 1, 2, and 3
Legislation on biological diversity focuses on the conservation of natural resources and the fair sharing of benefits. It mandates the creation of local committees to document and manage biodiversity. Town planners are required to consult these records before making land use changes in ecologically significant areas, ensuring that development does not compromise the state's natural heritage or traditional knowledge.

99. (A) It requires the Master Plan to allocate suitable land for setting up solid waste processing facilities
Effective solid waste management is a fundamental component of sustainable urban development. Regulations require city master plans to proactively allocate sufficient land for waste processing and treatment facilities. This ensures that the city has the necessary infrastructure to handle the waste generated by its population, promoting a cleaner environment and reducing the reliance on unmanaged and hazardous open dumping.

100. (D) Central Pollution Control Board (CPCB) – Created under the Air Act 1981 exclusively
India's environmental governance relies on various authorities established under different laws. While specialized bodies like the National Green Tribunal handle judicial disputes, other agencies focus on regulation and standard-setting. The central pollution control board was originally established under water pollution legislation and later granted additional powers, illustrating the evolving nature of environmental protection and the importance of integrated regulatory bodies.

101. (A) Both A and R are true and R is the correct explanation of A.
Recent updates to coastal regulations aim to balance the needs of economic growth with environmental protection. These changes allow for more flexibility in developing tourism and affordable housing in coastal areas, which can support local livelihoods and regional prosperity. By promoting a sustainable coastal economy, the government seeks to ensure that development does not come at the cost of vital marine ecosystems.

102. (C) Both Statement I and Statement II are correct
Wetland protection rules distinguish between activities that harm the ecosystem and those that are part of traditional community life. New industrial development and large-scale expansions are strictly prohibited to prevent pollution and habitat loss. In contrast, regulated activities like traditional fishing and boating are permitted, ensuring that conservation efforts do not unnecessarily disrupt the livelihoods of local residents.

103. (D) MP Vriksho Ka Parirakshan (Nagariya Kshetra) Adhiniyam (MP Tree Preservation Act)
In the urban areas of Madhya Pradesh, the protection of trees is governed by a specific state act. Developers must comply with these legal requirements before removing any mature vegetation for construction. This legislation ensures that the city's green cover is preserved and that any necessary tree felling is authorized by the appropriate department, maintaining the ecological health and aesthetics of the town.

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104. (A) P-2, Q-1, R-3, S-4
Environmental authorities in India operate under various specialized laws. Pollution control boards manage water and air quality based on the respective acts, while wildlife boards are constituted under biodiversity protection legislation. Other bodies, such as those governing coastal zones and groundwater, derive their powers from the broader environmental protection act, ensuring a comprehensive and legal approach to ecological management across the country.

105. (B) Organic farming by local communities
Eco-sensitive zones regulate human activities to protect fragile environments near conservation areas. While highly polluting industries and large-scale mining are prohibited to prevent damage, certain low-impact activities are permitted. For

Statement I: The national SDG Index provides a comprehensive measure to track the performance of Indian States and Union Territories.
Statement II: State-level rankings in the SDG Index have no bearing on municipal policy adjustments, as local planning is entirely exempt from state targets.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

20. A town planner is analyzing the SDG urban scorecard to prioritize municipal funding. The city shows excellent progress in SDG 6 but severe lags in SDG 7. Which intervention should be prioritized?
(A) Subsidizing rooftop solar installations and upgrading to smart grids.
(B) Expanding the underground sewerage network in newly annexed wards.
(C) Constructing additional overhead water storage tanks.
(D) Increasing the frequency of municipal solid waste collection.

21. Which of the following statements about Habitat III (Quito 2016) is incorrect?
(A) It resulted in the formal adoption of the New Urban Agenda framework.
(B) It emphasized the right to the city and inclusive urban development goals.
(C) It mandated a halt to rural-to-urban migration by 2030.
(D) It reinforced the localization of the Sustainable Development Goals.

22. A municipality intends to map its local actions against the 232 global SDG indicators. What is the most significant practical challenge they will face in concept application?
(A) Insufficient data granularity exists at the ward and municipal levels for many macro-economic indicators.
(B) The United Nations prohibits local governments from using global indicators without paying substantial licensing fees to agencies.
(C) The indicators are solely designed for assessing rural agricultural yields and lack applicability in densely populated areas.
(D) Mapping local actions to global indicators leads to the immediate dissolution of the statutory local planning authority office.

23. Which of the following is NOT a core component embedded within the localization of SDG 7 (Affordable and Clean Energy) in urban areas?
(A) Expanding urban solar rooftop power generation potential.
(B) Enhancing energy efficiency within municipal civic buildings.
(C) Integrating smart grids and local demand-side management.
(D) Promoting raw coal for domestic cooking in urban slums.

24. What is the most appropriate reason for integrating the SDG framework into the preparation of traditional city master plans?
(A) To replace existing spatial zoning maps entirely with international statistical charts and data graphs.
(B) To align spatial development with globally recognized sustainability, equity, and resilience targets.
(C) To restrict public participation in plan formulation by utilizing complex and technical international jargon.
(D) To transfer statutory land-use enforcement powers from the State Government to a national agency.

25. Indore has actively participated in carbon credit generation. This initiative primarily leverages which sector's emissions reduction for claiming offsets in the urban context?
(A) Unregulated expansion of peri-urban brick kilns.
(B) Increased reliance on diesel generators for municipal water pumping.
(C) Scientific processing of municipal solid waste and biomethanation.
(D) Deforestation of urban fringes for residential plotting.

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than the final operational stage of the urban development project.

113. (A) Both A and R are true and R is the correct explanation of A.
Urban heat islands occur when cities become significantly warmer than surrounding rural areas due to human activities and dense infrastructure. Mandating green spaces in master plans is a key strategy for mitigating this effect. Vegetation provides shade and cools the air through evapotranspiration, reducing surface temperatures. This makes urban environments more comfortable and reduces the energy demand for cooling buildings.

114. (B) Statement II is correct and Statement I is incorrect
Environmental management is a continuous process that extends far beyond the construction of a project. During the operation phase, ongoing monitoring is essential to ensure that waste disposal systems, energy usage, and sewage treatment plants function correctly. This persistent oversight is necessary to maintain the project's sustainability and ensure that it continues to meet the environmental standards set during the initial appraisal.

115. (A) Provision of Rainwater Harvesting (RWH) systems based on roof area thresholds
State-level building regulations in Madhya Pradesh include specific mandates for environmental conservation. One key requirement for large plot approvals is the provision of rainwater harvesting systems. These structures are essential for replenishing groundwater levels in urban areas, helping to mitigate the impacts of water scarcity and ensuring that new developments do not place an unsustainable burden on local water resources.

116. (A) P-2, Q-1, R-4, S-3
Different infrastructure projects require specialized environmental permits based on their specific impacts. Projects involving groundwater extraction must be cleared by water authorities, while tree felling requires approval from the forest department. Large-scale waste facilities need authorization under solid waste rules, and developments near national parks must be reviewed by wildlife boards to ensure that regional biodiversity is protected from urban encroachment.

117. (C) Redesigning the financial budget for the marketing of the project
Supervising the construction phase involves active monitoring to minimize immediate environmental disturbances. This includes controlling dust through barricades, measuring machinery noise, and ensuring the preservation of topsoil for later use. While financial management is part of the overall project, tasks such as redesigning marketing budgets are commercial activities and are not considered part of environmental site supervision or compliance monitoring.

118. (C) Rejuvenate them as ecological corridors with riparian buffers and non-motorized transport tracks
Modern smart city planning emphasizes the restoration of natural features rather than their destruction. Natural drainage channels should be rejuvenated as ecological corridors, providing green space and riparian buffers. This approach helps manage stormwater naturally, prevents flooding, and creates attractive recreational areas. Protecting these corridors is more sustainable and beneficial than boxing them in concrete for short-term commercial land gains.

119. (D) Incorporate EMP conditions as binding clauses in tender documents and link payments to compliance
Enforcing environmental standards during construction requires strong administrative and legal mechanisms. The most effective method is to incorporate the environmental management plan as a binding part of the contractor's legal agreement. By linking project payments to the successful implementation of mitigation measures, authorities can ensure that contractors prioritize ecological compliance and follow through on their environmental responsibilities throughout the construction phase.

120. (A) Realign the industrial corridor outside the ESZ boundaries to comply with the MoEFCC notification
When regional development plans conflict with environmental notifications, legal compliance must be the priority. In cases where a proposed

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instance, organic farming by local communities is encouraged as it supports livelihoods without introducing harmful chemicals into the ecosystem, maintaining the balance between human presence and nature conservation.

106. (B) They must utilize fly ash-based products (bricks, cement) for construction within the specified radius
Policies governing the use of power plant by-products aim to reduce the environmental footprint of urban development. For projects located near thermal plants, contractors are mandated to use fly ash-based construction materials. This requirement helps manage industrial waste and reduces the demand for traditional clay bricks, which often involves the destructive stripping of fertile topsoil from agricultural regions.

107. (A) To provide consent inputs and ensure the regional plan adheres to environmental carrying capacity
Regional planning requires the integration of environmental standards to ensure that growth is sustainable. The state pollution control board provides essential input during the plan's preparation, focusing on air and water quality and the region's total carrying capacity. This collaboration ensures that industrial and urban development goals are aligned with environmental regulations, preventing the over-exploitation of natural resources and reducing future pollution risks.

108. (C) Mandate a No Objection Certificate (NOC) from the Forest Department to ensure no violation of buffer norms
When development projects are proposed near forest boundaries, strict legal procedures must be followed to prevent encroachment and protect biodiversity. Town planners are required to obtain a formal no objection certificate from the forest department before approving such layouts. This ensures that the project complies with all buffer norms and does not negatively impact the adjacent reserved forest area or its wildlife.

109. (D) The process of assessing the combined environmental impacts of multiple past, present, and future actions
Cumulative impact assessment is a comprehensive planning tool that looks beyond the effects of a single project. It evaluates the total environmental stress caused by the combination of multiple past, present, and reasonably foreseeable future actions in a region. This approach is vital for understanding the long-term sustainability of an area and preventing the gradual degradation of natural resources through incremental development.

110. (C) 1, 2, and 3
Large-scale urban developments are subject to environmental conditions designed to promote resource efficiency. Building permissions often mandate the installation of rainwater harvesting systems, wastewater recycling for non-potable uses, and proper solid waste segregation. These requirements ensure that new projects minimize their demand on municipal services and contribute to the overall sustainability and resilience of the city's infrastructure and natural environment.

111. (B) It mitigates urban flooding by enhancing local infiltration and reducing peak runoff rates.
Sustainable drainage systems use natural processes to manage urban runoff more effectively than traditional concrete pipes. By promoting local infiltration and using vegetation to slow down water flow, these systems reduce the risk of urban flooding. This approach not only protects infrastructure but also helps recharge groundwater and enhances the local micro-climate, making cities more resilient to climate change.

112. (D) Construction Phase – Demolishing historical heritage to create open green spaces
Environmental integration occurs throughout the project lifecycle, with specific focus areas at each stage. Design emphasizes energy efficiency, while tender documents include binding environmental clauses. Operation phase management tracks long-term performance like sewage treatment. However, site preparation and the demolition of existing structures are activities associated with the construction phase, rather

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CHAPTER 13
Sustainable Urban Development

1. Which of the following best reflects the primary objective of evaluating urban local bodies (ULBs) using a Sustainable Development Goals (SDG) Urban Index?
(A) To reallocate municipal boundaries based on population density and carbon footprint.
(B) To mandate the replacement of all fossil-fuel based public transit with electric vehicles by 2030.
(C) To foster competitive federalism and monitor local-level progress towards global SDG targets.
(D) To centralize all municipal financial powers under the State Urban Development Agency.

2. Consider the following statements regarding the Sustainable Development Goals (SDG) framework:
1. The framework consists of 17 interconnected global goals.
2. It includes exactly 169 targets to be achieved by 2030.
3. The progress is monitored using a framework of 232 unique global indicators.
4. SDG 11 is exclusively focused on clean water and sanitation for urban areas.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

3. What is the precise definition of Voluntary Local Reviews (VLR) in the context of the Sustainable Development Goals?
(A) A legally binding annual audit conducted by the United Nations to assess municipal tax collections.
(B) A mandatory environmental clearance report required for infrastructure projects under the New Urban Agenda.
(C) A citizen-led grievance redressal mechanism exclusively for monitoring the AMRUT scheme at the word level.
(D) A process where subnational and local governments voluntarily report on their progress toward the SDGs.

4. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): The localisation of SDGs is essential for achieving the targets set under SDG 11 (Sustainable Cities and Communities).
Reason (R): Urban local bodies are primarily responsible for delivering basic services, land use planning, and managing urban infrastructure which directly impact global goals.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

5. Which of the following correctly pairs an Indian urban scheme with its most directly associated Sustainable Development Goal (SDG)?
(A) Swachh Bharat Mission – SDG 7 (Affordable and Clean Energy systems)
(B) Smart Cities Mission – SDG 14 (Conservation of Life Below Water)
(C) Atal Mission (AMRUT) – SDG 6 (Clean Water and Sanitation)
(D) Pradhan Mantri Awas Yojana – SDG 13 (Integrated Climate Action)

6. Match List I with List II:
List I: Sustainable Development Goal
P. SDG 6
Q. SDG 7
R. SDG 11
S. SDG 13
List II: Urban Relevance
1. Affordable and clean energy access in cities
2. Local climate action plans and resilience

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89. (A) Both A and R are true and R is the correct explanation of A.
Large-scale urban projects are increasingly required to obtain formal permits for water usage to prevent ecological damage. Excessive extraction by massive commercial or residential complexes can lead to the rapid depletion of local aquifers and a decline in water quality. Requiring an official no objection certificate ensures that the project's water demand is evaluated against the region's total carrying capacity.

90. (A) Statement I is correct and Statement II is incorrect
Soil quality is a significant factor in urban environmental health, as contaminants can enter the food chain or leach into groundwater. Heavy metals like lead and cadmium, often resulting from industrial waste and vehicular emissions, pose long-term risks to human safety. Therefore, monitoring soil conditions is a critical part of town planning to ensure that land is safe for habitation.

91. (A) MPPCB through CAAQMS linked to CPCB
Industrial centers in Madhya Pradesh are monitored through an integrated network of automated stations. These systems provide real-time data on air pollutants, which is collated and analyzed by the state's pollution control board. This information is linked to national servers, allowing for continuous oversight and the implementation of pollution control measures to protect the health of nearby urban populations.

92. (A) P-2, Q-3, R-4, S-1
Water quality is assessed using a range of parameters that indicate different types of pollution. Biological oxygen demand measures organic waste, while dissolved oxygen levels are critical for the survival of aquatic organisms. Total suspended solids track physical particles in the water, and fecal coliform counts are used as a primary indicator of contamination from human or animal waste.

93. (D) Rewarding the polluting entity with tax breaks
When environmental monitoring detects high levels of pollution, authorities must implement specific corrective actions. These protocols include issuing health advisories, enforcing temporary shutdowns of industrial units, or increasing dust suppression activities at construction sites. Such measures are designed to protect public health and bring pollution levels back within safe limits, rather than providing financial benefits to the polluting entities.

94. (C) Halt all non-essential construction activities and restrict heavy diesel vehicle entry
Severe air pollution episodes require immediate and decisive intervention from city planners. When air quality indices reach hazardous levels, standard protocols mandate the suspension of non-essential construction and the restriction of heavy vehicle traffic. These emergency actions are necessary to reduce the emission of particulates and gaseous pollutants, protecting the public from the acute health effects of poor air quality.

95. (B) It provides an objective evaluation of the facility's compliance with regulations and the EMP
Third-party environmental audits provide an unbiased evaluation of an industrial facility's operational performance. By hiring independent experts to review compliance with environmental laws and management plans, companies can identify areas for improvement and ensure transparency. This process complements government monitoring and helps the industry maintain high ecological standards, which is essential for sustainable operation within an urban context.

96. (D) Enforce the 40 dB(A) night-time limit by restricting machinery operations and installing barriers
Managing noise pollution near sensitive locations like hospitals requires strict enforcement of established standards. When construction activities exceed permissible levels at night, planners must intervene by restricting machinery use and requiring the installation of acoustic barriers. This protects the health and recovery of patients while ensuring that infrastructure development proceeds in a way that respects the needs of the community.

97. (A) Prevention, Minimization, Reuse, Recycling, Recovery, Co-processing, and Safe Disposal
Modern hazardous waste management emphasizes a clear hierarchy to minimize

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party audits and reporting.
(D) It restricts data collection to tier-1 metropolitan cities, excluding statutory towns and smaller rural municipalities.

13. A municipal corporation decides to prepare a Voluntary Local Review (VLR). What is the primary administrative value of this exercise for the city?
(A) To secure direct sovereign loans from international bodies independent of State or Central government approval.
(B) To assess and showcase local policy alignments, gaps, and progress on SDGs to citizens and global platforms.
(C) To bypass national SDG indices and establish a parallel statutory planning and reporting framework for the city.
(D) To mandate the privatization of all solid waste management operations under the principles defined by the New Urban Agenda.

14. Consider the following targets related to the SDG framework:
1. Upgrading slums to ensure safe and affordable housing.
2. Improving urban air quality and municipal waste management.
3. Reducing the environmental impact of cities.
4. Achieving 100% reliance on nuclear energy for municipal operations.

Which of the above statement(s) is/are explicit targets under SDG 11?
(A) 1 and 2 only
(B) 1, 2, and 3 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

15. What does the term 'Localisation of SDGs' signify in urban planning?
(A) Restricting the application of global sustainability goals exclusively to rural panchayats and gram sabhas.
(B) Replacing existing local development plans completely with international master plans.
(C) Translating global agendas into city-level plans and integrating them into municipal governance.
(D) Limiting the scope of environmental sustainability to geographical boundaries without addressing socio-economic targets.

16. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): The AMRUT scheme directly contributes to the realization of SDG 6 (Clean Water and Sanitation) in Indian cities.
Reason (R): AMRUT focuses heavily on establishing robust water supply systems, sewerage networks, and septage management in urban local bodies.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

17. Which of the following pairs of SDG goals and urban planning elements is correctly matched?
(A) SDG 7 – Development of urban heritage precincts
(B) SDG 6 – Integration of Building Integrated Photovoltaics (BIPV)
(C) SDG 13 – Preparation of City Climate Action Plans
(D) SDG 11 – Promotion of deep-sea fishing industries

18. Match List I with List II:
List I: Urban Schemes
P. Smart Cities Mission (SCM)
Q. Swachh Bharat Mission - Urban (SBM-U)
R. Pradhan Mantri Surya Ghar Yojana
S. Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
List II: Primary SDG Focus
1. SDG 6 (Sanitation and Waste)
2. SDG 7 (Renewable Energy)
3. SDG 6 (Water Supply Networks)
4. SDG 11 (Holistic Urban Sustainability)
Codes:
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-4, S-3

19. Consider the following statements regarding the national SDG Index:

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3. Clean water and municipal sanitation
4. Safe, inclusive, and sustainable urban settlements

Codes:
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-4, Q-1, R-3, S-2

7. Consider the following statements regarding the New Urban Agenda:
Statement I: The New Urban Agenda was adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, 2016.
Statement II: It provides a legally binding treaty requiring all signatory nations to cap urban population growth by the year 2030.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

8. Arrange the following steps in the logical chronological order for a city preparing a Voluntary Local Review (VLR) for SDG monitoring:
I. Conducting a baseline assessment of existing municipal indicators.
II. Identifying and mapping local municipal schemes to specific SDG targets.
III. Publishing and presenting the VLR report to global and national stakeholders.
IV. Formulating an institutional mechanism or committee for localizing SDGs.
(A) I, II, IV, III
(B) IV, I, II, III
(C) IV, II, I, III
(D) II, I, IV, III

9. Which of the following statements regarding India's SDG progress and urban scorecard is incorrect?
(A) National SDG indices include specific metrics for the objective evaluation of various urban parameters.
(B) The urban scorecard maps central schemes like AMRUT and SCM to their respective sustainability and SDG targets.
(C) India's SDG urban scorecard utilizes the UN global framework indicators without any local adaptation.
(D) State-level progress in achieving SDG 11 is competitively ranked to encourage better municipal governance results.

10. An urban planner is tasked with integrating SDG 13 (Climate Action) into a city master plan. Which of the following spatial interventions best applies this concept?
(A) Maximizing the floor area ratio (FAR) in coastal zones to accommodate climate refugees.
(B) Encouraging outward urban sprawl to reduce population density and lower local temperatures.
(C) Constructing large-scale fossil-fuel power plants on the urban periphery to ensure reliable energy during extreme weather.
(D) Zoning vulnerable low-lying areas as non-developable green buffers to manage urban flooding.

11. Which of the following is NOT a recognized target under SDG 11 (Sustainable Cities and Communities)?
(A) Eliminating all forms of agricultural subsidies in peri-urban zones.
(B) Ensuring access to adequate, safe, and affordable housing and basic services.
(C) Providing universal access to safe, inclusive, and accessible, green, and public spaces.
(D) Supporting positive economic, social, and environmental links between urban, peri-urban, and rural areas.

12. Which of the following statements best describes the approach to Urban SDG monitoring using indicators and data sources in India?
(A) It relies solely on high-resolution real-time satellite imagery, bypassing any ground-level municipal data collection processes.
(B) It utilizes the National Indicator Framework to contextualize global targets to national data systems.
(C) It strictly prohibits the use of official census data, relying exclusively on private third-

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26. Consider the following statements about the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC):
1. It provides a robust, transparent, and globally accepted framework for cities to measure and report GHG emissions.
2. It categorizes emissions strictly into Scope 1, Scope 2, and Scope 3.
3. GPC prohibits cities from reporting emissions generated outside the city boundaries even if driven by city consumption.
4. It helps cities establish a baseline to set climate action targets.

Which of the statements given above are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

27. Which of the following defines the "carbon footprint of a city"?
(A) Greenhouse gases produced directly and indirectly to support human activities in the city.
(B) The physical land area occupied by heavy industrial zones and manufacturing units within the city limits.
(C) The total number of registered fossil-fuel vehicles per capita within a specific urban administrative center.
(D) The financial cost incurred by a municipality to purchase carbon credits on the fluctuating international market.

28. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): Promoting a compact city form is a widely accepted low-carbon urban planning strategy.
Reason (R): Compact cities minimize the distances between residential, commercial, and recreational areas, thereby significantly reducing transportation-related greenhouse gas emissions.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

29. Which of the following pairs of sectoral emissions and their primary urban mitigation strategy is correctly matched?
(A) Transport sector – Expansion of low-density single-family zoning
(B) Building sector – Adoption of Green Building certifications (e.g., GRIHA, LEED)
(C) Waste sector – Increasing open dumping practices
(D) Industrial sector – Banning all manufacturing units within a 500 km radius of the city

30. Match List I Net-zero with List II Descriptions:
List I: Net-zero/Low-carbon Concepts
P. Carbon Budget
Q. Carbon Offset
R. Net-zero City
S. Scope 2 Emissions
List II: Descriptions
1. A state where emissions produced are entirely balanced by emissions removed from the atmosphere
2. Indirect emissions from the generation of purchased electricity consumed by the city
3. The cumulative amount of carbon dioxide emissions permitted over a period to keep within a temperature threshold
4. A reduction in emissions made in order to compensate for emissions made elsewhere

Codes:
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-1, R-4, S-2

31. Consider the following statements regarding the C40 Cities network:
Statement I: C40 is a network of the world's leading cities that are committed to addressing climate change through urgent and effective action.
Statement II: Membership in the C40 network is legally mandated for all million-plus cities in India under the Smart Cities Mission.
Which of the following statement(s) is/are correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.

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and closed-loop manufacturing.
(D) It typically results in significant volumes of waste ending up in landfills or incinerators.

82. A township developer wants to implement a water recycling and reuse system. Applying circular economy principles, what is the most appropriate configuration?
(A) Pumping raw sewage directly into the nearest river to rely on natural dilution and flow patterns.
(B) Treating greywater locally to a standard suitable for toilet flushing and landscape irrigation.
(C) Importing fresh potable water for 100% of landscaping needs to avoid potential contamination.
(D) Sealing all wastewater in underground tanks permanently with no extraction or reuse possible.

83. Which of the following is NOT a characteristic of the Sharing Economy in the context of urban resource use?
(A) Maximizing the utilization rate of underused assets like cars, tools, and office spaces.
(B) Encouraging access over ownership through platforms like municipal bike-sharing systems.
(C) Reducing overall demand for virgin raw materials by sharing various existing city products.
(D) Mandating every citizen to independently purchase heavily utilized heavy machinery items.

84. Which statement accurately describes Construction and Demolition (C&D) waste recycling?
(A) Recycled C&D waste can be used for paver blocks, non-structural concrete, and road sub-base.
(B) C&D waste is composed entirely of biodegradable organic matter from various urban sources.
(C) The primary method for C&D recycling is biomethanation to produce CNG for urban transport.
(D) Municipal laws in India explicitly forbid the reuse of C&D waste in government construction.

85. Madhya Pradesh has introduced policies for managing Construction and Demolition (C&D) waste in major municipal corporations. What is a key mandate of such policies for urban local bodies?
(A) Dumping all C&D waste into the Narmada River to bypass the need for processing and storage.
(B) Exporting all C&D rubble to neighboring states without any local processing or sorting.
(C) Establishing processing plants and utilizing recycled aggregates in municipal civil works.
(D) Mandating builders to burn C&D waste at construction sites to reduce volume and costs.

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86. Consider the following statements regarding resource recovery from wastewater:
1. Treated wastewater can be safely reused for industrial cooling and agricultural irrigation.
2. Anaerobic digestion of sewage sludge yields biogas which can be used to power the treatment plant itself.
3. Nutrients such as nitrogen and phosphorus cannot be recovered from wastewater under any circumstances.
4. Resource recovery transitions wastewater treatment plants from mere disposal facilities to 'water resource recovery facilities'.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

87. What does Extended Producer Responsibility (EPR) signify in urban waste management?
(A) The requirement for consumers to permanently store their own waste on their private residential property.
(B) Shifting of all waste management costs entirely to the local municipal body, absolving manufacturers.
(C) A mechanism allowing producers to dump hazardous industrial waste in municipal sanitary landfills.
(D) Producers are given responsibility—

the reduction of one metric ton of carbon dioxide or its equivalent.
3. Carbon offset projects in cities can include large-scale urban afforestation and energy-efficient street lighting.
4. Carbon credits provide cities with a legal loophole to continuously increase their base emissions without any actual mitigation.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 2, 3, and 4 only
(C) 1, 3, and 4 only
(D) 1, 2, 3, and 4

39. What is the precise definition of the 'Carbon Budget' in the context of city climate planning?
(A) The annual financial allocation made by the municipal corporation for planting street trees and parks.
(B) The tax revenue collected exclusively from penalties levied on highly polluting local industries.
(C) The subsidy provided by the central government to individuals purchasing electric vehicles and bikes.
(D) Maximum cumulative net greenhouse gas emissions allowed to limit global warming to a specific target.

40. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): The waste sector is a significant contributor to a city's greenhouse gas inventory, primarily due to methane emissions.
Reason (R): Anaerobic decomposition of organic municipal solid waste in unscientific, open dumpsites produces large quantities of methane, a potent greenhouse gas.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

41. Which of the following pairs of low-carbon strategies and their targeted sectors is correctly matched?
(A) Building Integrated Photovoltaics (BIPV) – Urban Transport Sector
(B) Transit-Oriented Development (TOD) – Solid Waste Management Sector
(C) Cool Roofs and Energy Conservation Building Code (ECBC) – Building Sector
(D) Extended Producer Responsibility (EPR) – Renewable Energy Sector

42. Match List I with List II:
List I: Urban Emission Sources
P. Commuter traffic congestion
Q. High energy use for space cooling
R. Unmanaged organic solid waste
S. Energy-intensive street lighting
List II: Mitigation Strategies
1. Passive cooling design and green roofs
2. Biomethanation and composting facilities
3. LED retrofitting and smart grid integration
4. Dedicated bus rapid transit (BRT) and NMT corridors

Codes:
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-4, R-3, S-2
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-1, R-2, S-4

43. Consider the following statements regarding the compact city form:
Statement I: The compact city form promotes high-density, mixed-use development, thereby reducing travel distances.
Statement II: Compact cities inherently guarantee zero greenhouse gas emissions from the building sector regardless of the energy source used.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

44. An urban planner is tasked with reducing transport emissions in a rapidly expanding mid-sized city. Applying the concept of low-carbon spatial planning, which action is most appropriate?
(A) Constructing wider, multi-lane highways extending into low-density suburban

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peripheries.
(B) Clustered residential and commercial developments within 500 meters of public transit nodes.
(C) Prohibiting mixed land-use zoning to ensure strict separation between residential districts.
(D) Removing pedestrian walkways to allocate more space for private vehicle parking areas.

45. Which of the following statements regarding green buildings as an emissions reduction tool is incorrect?
(A) Green buildings emphasize the use of locally sourced materials to reduce embodied carbon.
(B) Frameworks exclusively evaluate aesthetic value, ignoring energy and water efficiency.
(C) Operational carbon is reduced through passive solar design and energy-efficient HVAC systems.
(D) Incorporating renewable energy systems like rooftop solar is a standard design practice.

46. A city aims to achieve net-zero status but cannot eliminate all residual emissions from essential services. How should the concept of "carbon offsets" be applied?
(A) Investing in certified emission reduction projects to compensate for the remaining emissions.
(B) The city should intentionally increase emissions to generate more offset demand in the market.
(C) The city must shut down all essential services immediately to meet the net-zero definition goals.
(D) The city can change its administrative boundaries to exclude polluting services from its inventory.

47. In compiling a GHG inventory under the GPC protocol, which of the following is NOT considered a "Scope 1" emission for a city?
(A) Direct emissions from fuel combustion in various city-owned municipal transport vehicles.
(B) Direct emissions from natural gas burned in residential furnaces within the municipal limits.
(C) Indirect emissions from grid electricity imported from a power plant 200 km outside the city.
(D) Direct emissions from an industrial manufacturing facility located inside the city boundary.

48. What is the most effective long-term pathway for transitioning an existing energy-intensive urban area into a net-zero carbon city?
(A) Expanding administrative boundaries to artificially dilute per capita emission statistics.
(B) Relying solely on international carbon credits while maintaining fossil-fuel based systems.
(C) Banning all future migration into the city to cap population-related energy demands.
(D) Coupling aggressive energy efficiency measures with a transition to 100% renewable energy grids.

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49. Within the institutional framework of Madhya Pradesh, which agency is primarily responsible for coordinating the implementation of renewable energy policies, such as the PM Surya Ghar scheme, in urban areas?
(A) Madhya Pradesh Pollution Control Board (MPPCB)
(B) Town and Country Planning Department (TCP)
(C) Madhya Pradesh Urja Vikas Nigam Limited (MPUVNL)
(D) Madhya Pradesh Road Development Corporation (MPRDC)

50. Consider the following statements regarding the integration of renewable energy in urban areas:
1. The PM Surya Ghar scheme aims to saturate urban households with solar rooftop installations.
2. Net metering policies actively discourage urban consumers from installing grid-connected solar panels.
3. Waste-to-energy plants help mitigate landfill overflow while generating urban power.
4. Smart grids facilitate demand-side management and accommodate fluctuating renewable energy inputs.

Which of the statements given above are correct?
(A) 1, 2, and 3 only

(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

51. What is the definition of Building Integrated Photovoltaics (BIPV)?
(A) Large solar farms installed exclusively on agricultural land outside city limits for urban grids.
(B) Portable solar panels used temporarily for various construction sites during the building phase.
(C) The practice of installing wind turbines on top of high-rise structures in the city center.
(D) PV materials used to replace conventional building materials in roofs, skylights, or facades.

52. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): Implementing net metering policies is crucial for maximizing solar rooftop potential in urban areas.
Reason (R): Net metering allows urban consumers to feed surplus solar energy back into the municipal grid, offsetting their electricity bills and incentivizing private investment.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

53. Which of the following pairs of renewable energy technologies and their typical urban spatial implementation is correctly matched?
(A) Biogas from sewage – Installed within high-density commercial office spaces
(B) District cooling systems – Applicable only to single-family detached rural homes
(C) Solar Parks – Typically require large tracts of land, often sited in peri-urban or designated utility zones
(D) Utility-scale wind turbines – Placed closely along heavily pedestrianized central business district streets

54. Match Urban Energy Systems/Policies in List I with Primary Function in List II:
List I: Urban Energy Systems/Policies
P. Smart Grid
Q. Net Metering
R. District Heating
S. Demand-Side Management
List II: Primary Function
1. A centralized network distributing heat generated to multiple buildings for space heating
2. Two-way communication technology enabling automated monitoring of power flows
3. Strategies encouraging consumers to modify their level and pattern of electricity usage
4. A billing mechanism crediting solar system owners for electricity added to the grid
Codes:
(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-1, Q-3, R-2, S-4
(D) P-2, Q-1, R-4, S-3

55. Consider the following statements regarding Electric Vehicle (EV) integration with renewable energy:
Statement I: Integrating EVs with a renewable energy grid (like solar) ensures that the environmental benefits of zero-tailpipe emissions are matched by clean energy generation.
Statement II: Vehicle-to-Grid (V2G) technology allows EV batteries to act as decentralized energy storage, supplying power back to the grid during peak load times.
Which of the following statement(s) is/are correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

56. Arrange the following steps in chronological order for an urban consumer installing and grid-connecting a solar rooftop system under a net metering policy:
I. Technical feasibility study and approval by the local power distribution company

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demand.
(C) Constructing a large-scale coal power plant as a primary baseload backup for the system.
(D) Restricting industrial zoning to operate solely on decentralized diesel generator units.

69. Which of the following statements about EV integration with renewable energy is incorrect?
(A) Charging EVs during peak solar generation hours helps align demand with renewable supply.
(B) Unmanaged EV charging during evening peak hours can severely strain local distribution grids.
(C) EVs can only be charged using dedicated fossil-fuel generators to protect grid stability.
(D) Vehicle-to-Grid (V2G) systems can provide ancillary services like frequency regulation to the grid.

70. A town planner aims to implement "Net Metering" for commercial buildings to encourage solar adoption. How does the financial flow in this concept fundamentally work?
(A) Consumers are billed only for "net" electricity, with solar power offsetting grid power.
(B) The municipality pays the building owner an upfront lump sum equal to future electricity bills.
(C) The building owner pays a fixed flat tax regardless of the electricity consumed or generated.
(D) The utility company takes ownership of the building in exchange for installing solar panels.

71. Which of the following is NOT a typical challenge associated with harnessing solar rooftop potential in highly dense Indian cities?
(A) Excessive shading from taller adjacent buildings.
(B) Fragmented roof ownership and shared terraces in multi-story apartments.
(C) Competing uses for roof space, such as water tanks, HVAC units, and recreational areas.
(D) A complete lack of solar radiation hitting the Indian subcontinent.

72. What is the primary objective of the PM Surya Ghar Muft Bijli Yojana?
(A) To provide free diesel generators to one crore households regardless of geographic location.
(B) To install rooftop solar in one crore households, providing up to 300 units of free power.
(C) To replace all municipal streetlights with high-pressure sodium vapor lamps across the city.
(D) To mandate the construction of large-scale solar parks in ecologically sensitive forest zones.

73. Indore's Gobar-Dhan Bio-CNG plant represents a successful circular economy model. What is the primary feedstock for this facility?
(A) Construction and demolition debris and waste
(B) End-of-life electronic hardware and waste
(C) Wet municipal solid waste (organic fraction)
(D) Processed industrial wastewater from plants

74. Consider the following statements regarding the principles of a circular economy:
1. It aims to decouple economic growth from finite resource consumption.
2. The model relies on the principles of reduce, reuse, recycle, and recover.
3. It advocates for the linear 'take-make-dispose' approach to maximize industrial throughput.
4. Product life extension and a robust repair economy are core tenets.

Which of the statements given above are correct?
(A) 1, 2, and 4 only
(B) 2, 3, and 4 only
(C) 1, 2, and 3 only
(D) 1, 3, and 4 only

75. What is the definition of "Urban Mining" in the context of resource efficiency?
(A) Extracting precious metals and materials from e-waste, C&D waste, and old infrastructure.
(B) The excavation of coal and iron ore from deep underground shafts located beneath city centers.
(C) The process of drilling for natural gas within designated urban residential development

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(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

63. What describes the mechanism of a Smart Grid in an urban setting?
(A) An electrical grid completely reliant on manual reading of traditional analog metering systems.
(B) A system that legally restricts electricity usage to daytime hours only for all city residents.
(C) An electricity network using digital technology to detect and react to local usage changes.
(D) A power network explicitly dedicated to supplying energy exclusively to municipal streetlights.

64. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): District heating and cooling systems are highly energy-efficient solutions for dense urban environments.
Reason (R): They generate thermal energy at centralized plants and distribute it through insulated underground pipes to multiple buildings, achieving economies of scale and better resource efficiency.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. Which of the following pairs concerning resource recovery from wastewater is correctly matched?
(A) Treated effluent – Direct supply for municipal drinking water without further processing
(B) Phosphorus extraction – Used primarily as a construction aggregate
(C) Sludge digestion – Production of biogas for electricity generation
(D) UV disinfection – Generating wind energy from water flow

66. Match List I with List II:
List I: Waste-to-Energy Processes
P. Incineration
Q. Biomethanation
R. Pyrolysis
S. Landfill Gas Recovery
List II: Characteristics
1. Anaerobic digestion of organic waste producing biogas
2. Thermal decomposition of waste in the absence of oxygen
3. Capturing methane emitted naturally from legacy dumpsites
4. Controlled combustion of waste at high temperatures
Codes:
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-1, R-4, S-3

67. Consider the following statements regarding Building Integrated Photovoltaics (BIPV):
Statement I: BIPV materials serve a dual purpose by acting as the outer layer of a structure while concurrently generating electricity.
Statement II: The primary challenge of BIPV is that they require vast amounts of extra land beyond the building footprint to function.
Which of the following statement(s) is/are correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

68. An urban designer is master-planning a greenfield smart city aiming for 100% renewable energy integration. To manage the intermittent nature of solar and wind power, which technological intervention should be prioritized?
(A) Implementing large-scale battery energy storage systems integrated with a smart grid.
(B) Banning the use of all electronic devices after sunset to reduce intermittent load

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(DISCOM).
II. Physical installation of the solar panels and inverter by an empanelled vendor.
III. Installation of the bi-directional (net) meter by the DISCOM.
IV. Disbursal of government subsidy to the consumer's bank account.
(A) I, II, III, IV
(B) II, I, III, IV
(C) I, III, II, IV
(D) IV, I, II, III

57. Which of the following statements regarding Waste-to-Energy (WtE) plants in cities is incorrect?
(A) WtE plants reduce the volume of municipal solid waste that must be sent to landfills.
(B) Incineration-based WtE plants require strict emissions control to prevent toxic atmospheric pollution.
(C) WtE plants are only viable in cities with a population of less than 50,000 due to feedstock constraints.
(D) Biomethanation is a WtE process particularly suited for segregated organic municipal waste.

58. A smart city authority wishes to implement a Demand-Side Management (DSM) program. Which of the following actions best applies this concept?
(A) Building a new coal power plant to meet unconstrained peak evening electricity demand patterns.
(B) Mandating that all households keep exterior lights on 24/7 to improve public safety levels.
(C) Disconnecting the city entirely from the national electricity grid for total independence.
(D) Introducing Time-of-Use pricing to encourage residents to run appliances during off-peak hours.

59. Which of the following is NOT typically considered an advantage of integrating biogas generated from sewage treatment plants into urban energy systems?
(A) It eliminates the need for initial capital investment in anaerobic digester infrastructure.
(B) It provides a renewable source of energy capable of generating electricity or thermal heat.
(C) It helps in capturing methane gas that would otherwise be vented into the local atmosphere.
(D) It creates a circular economy loop by treating urban waste while recovering local resources.

60. Which statement best reflects the integration of renewable energy in national Smart City projects in India?
(A) Smart City guidelines prohibit the use of solar energy to protect grid monopoly.
(B) Projects mandate at least 10% of the Smart City's energy requirement to come from solar energy.
(C) Renewable energy integration is limited strictly to rural adjoining areas, not the smart city core.
(D) The focus is exclusively on large-scale hydro power with no provision for decentralized solar generation.

61. The Rewa Ultra Mega Solar Project in Madhya Pradesh is an example of utility-scale renewable energy serving urban needs. Which major urban transit system sources a significant portion of its power directly from this project?
(A) Mumbai Monorail Public Transit System
(B) Delhi Metro Rail Corporation (DMRC)
(C) Kolkata Tramways and Light Rail System
(D) Chennai MRTS Urban Suburban Rail Network

62. Consider the following statements regarding Wind energy in urban and peri-urban contexts:
1. Micro-wind turbines can be integrated into the design of high-rise buildings to capture accelerated wind speeds.
2. Large-scale utility wind farms are highly suitable for densely populated central business districts.
3. Urban wind energy generation is often challenged by turbulence caused by building density and uneven skylines.
4. Peri-urban areas with open, flat terrain are generally more suitable for community-scale wind projects than the urban core.

Which of the statements given above are correct?

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zones.

(D) The illicit extraction of groundwater using unregulated deep borewells and pumping systems.

76. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:

Assertion (A): Industrial symbiosis in eco-industrial parks is a practical application of circular economy principles.

Reason (R): In an eco-industrial park, the waste or byproduct of one industry becomes the raw material for another, optimizing resource efficiency and minimizing waste.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

77. Which of the following correctly pairs a circular economy 4R principle with its urban application?

(A) Reduce – Increasing the production of single-use plastics to meet growing consumer demands.

(B) Reuse – Designing modular buildings where components can be disassembled and used elsewhere.

(C) Recycle – Sending all untreated municipal waste to sanitary landfills without segregation.

(D) Recover – Banning the generation of energy from waste to prioritize traditional disposal.

78. Match the following circular economy concepts given in List I with the appropriate examples given in List II

List I: Circular Economy Concepts

P. Extended Producer Responsibility (EPR)

Q. Sharing Economy

R. Resource Recovery

S. Product Life Extension

List II: Examples

1. Extracting biogas and struvite (fertilizer) from wastewater treatment plants
2. Right-to-repair legislation and modular electronics design
3. Car-pooling platforms and municipal bicycle-sharing schemes
4. E-waste collection drives managed by electronic manufacturers

Codes:

(A) P-4, Q-3, R-1, S-2

(B) P-1, Q-2, R-3, S-4

(C) P-3, Q-4, R-2, S-1

(D) P-4, Q-1, R-3, S-2

79. Consider the following statements regarding Green Procurement in urban governance:

Statement I: Green procurement policies require municipal bodies to prioritize goods and services that have a reduced environmental impact over their life cycle.

Statement II: A major drawback of green procurement is that it strictly forbids the purchase of recycled or remanufactured goods.

Which of the following statement(s) is/are correct?

(A) Both Statement I and Statement II are correct.

(B) Both Statement I and Statement II are incorrect.

(C) Statement I is correct but Statement II is incorrect.

(D) Statement I is incorrect but Statement II is correct.

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80. Arrange the following stages representing the transition from a linear to a circular material flow in the construction sector:

I. Sourcing of virgin raw materials for initial construction.

II. Demolition of the structure at the end of its lifecycle.

III. Processing concrete rubble into recycled aggregates.

IV. Utilizing recycled aggregates to construct new urban pavements.

(A) I, II, III, IV

(B) II, I, III, IV

(C) II, III, I, IV

(D) III, IV, II, I

81. Which of the following statements regarding the Linear Economy model is incorrect?

(A) It assumes that natural resources are infinite and waste sinks have unlimited capacity.

(B) It follows a 'take-make-dispose' paradigm.

(C) It inherently prioritizes industrial symbiosis

(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

32. Arrange the following steps in chronological order for developing a city's Greenhouse Gas (GHG) inventory using the GPC protocol:
I. Defining the geographic boundary and the inventory year.
II. Collecting activity data (e.g., fuel consumption, electricity use) across all sectors.
III. Setting emission reduction targets based on the final inventory results.
IV. Calculating emissions using appropriate emission factors.
(A) I, II, IV, III
(B) II, I, IV, III
(C) I, IV, II, III
(D) IV, I, II, III

33. Which of the following statements regarding net-zero carbon city pathways is incorrect?
(A) A net-zero pathway requires deep decarbonization across transport, energy, and building sectors.
(B) Transitioning to 100% renewable energy grids is a critical milestone for achieving net-zero status.
(C) Net-zero cities must completely eradicate all forms of energy consumption and industrial activities.
(D) Carbon sequestration mechanisms, such as urban forestry, play a vital role in balancing emissions.

34. A municipal corporation is establishing a "Low-Emission Zone" (LEZ) in its central business district. Which of the following is the most direct application of this concept?
(A) Allowing only heavy diesel-powered freight trucks to operate during peak daytime hours.
(B) Permitting only zero-emission or high-standard low-emission vehicles to enter the zone.
(C) Mandating that all buildings in the zone use coal-fired boilers for winter heating.
(D) Reducing public transit frequency to encourage residents to walk longer distances.

35. Which of the following is NOT a recognized strategy for low-carbon urban planning?
(A) Transit-Oriented Development (TOD) planning.
(B) Promoting non-motorized transport infrastructure.
(C) Implementing district heating and cooling systems.
(D) Incentivizing urban sprawl and scattered development.

36. Which statement accurately reflects India's Nationally Determined Contributions (NDC) in the context of urban contributions?
(A) Focus on building efficiency, mass rapid transit expansion, and improved waste management.
(B) The NDC targets mandate that Indian cities must physically relocate their industrial zones by 2030.
(C) India's NDC explicitly exempts the urban transport sector from any greenhouse gas reduction targets.
(D) The urban contribution requires cities to entirely replace concrete construction with timber by 2025.

37. Sanchi, recognized as India's first solar city in Madhya Pradesh, exemplifies which of the following urban planning strategies?
(A) Complete reliance on coal-based thermal power imported from various neighboring state utilities.
(B) A transition exclusively to nuclear power for all municipal utilities and public infrastructure.
(C) Integration of solar energy to meet power demands, aligning with net-zero carbon pathways.
(D) The abolition of the local municipal grid in favor of individual decentralized diesel generators.

38. Consider the following statements about carbon offsets and credits in the urban context:
1. Carbon credits allow cities to monetize their quantifiable emission reductions from projects like scientific landfill management.
2. A single carbon credit typically represents

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financial and/or physical—for the treatment of post-consumer products.

88. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): The "repair economy" is a vital component of sustainable urban development.
Reason (R): Extending the lifecycle of products through repair reduces the demand for raw material extraction and limits the volume of municipal solid waste.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

89. Which of the following pairs concerning Circular Economy indicators for cities is correctly matched?
(A) Waste Generation Rate – Measuring the total percentage of solar rooftops installed in the city.
(B) Carbon Intensity – The volume of water consumed per capita per day across the urban population.
(C) Material Recovery Rate – The percentage of waste diverted from landfills and recycled or reused.
(D) Asset Utilization Rate – The amount of C&D waste generated per square meter of new construction.

90. Match the following Types of Urban Waste given in List I with the Primary Circular Recovery Method List II:
List I: Types of Urban Waste
P. E-waste (electronics)
Q. Organic wet waste
R. C&D waste (concrete rubble)
S. Wastewater sludge
List II: Primary Circular Recovery Method
1. Biomethanation / Composting
2. Anaerobic digestion for biogas
3. Urban mining for precious metals
4. Crushing and grading for road sub-base
Codes:
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-4, R-1, S-2

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91. Consider the following statements regarding eco-industrial parks:
Statement I: Eco-industrial parks apply the principles of industrial symbiosis to optimize energy, water, and material flows among co-located businesses.
Statement II: Businesses within an eco-industrial park strictly operate in isolation and are legally barred from sharing infrastructure or byproducts.
Which of the following statement(s) is/are correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

92. An urban planner is developing a new industrial zone and wishes to incorporate industrial symbiosis. Which operational model best applies this concept?
(A) Ensuring that all factories discharge their effluents independently into the municipal drains.
(B) Waste heat from a power plant is captured and supplied to a food processing unit for boiling.
(C) Mandating that every factory must import virgin raw materials exclusively from overseas ports.
(D) Separating industries geographically so they cannot easily communicate or share local logistics.

93. Which of the following statements regarding the transition to a Circular Economy is incorrect?
(A) It requires a fundamental shift in product design to ensure modularity and recyclability.
(B) It aims to eliminate the concept of waste by designing materials to circulate safely within the economy.
(C) It promotes alternative business models such as Product-as-a-Service (PaaS).

penetration.
(D) It prioritizes maximizing asphalt coverage and minimizing vegetation to ensure the fastest possible flow of motorized traffic.

106. A planner is applying flood-resilient spatial planning in a riverine city. Which of the following zoning regulations best reflects this application?
(A) Permitting high-density residential development inside the 1-in-10-year designated floodplain.
(B) Paving over natural wetlands to construct large-scale shopping malls and parking structures.
(C) Removing all setback regulations along riverbanks to allow for structural urban encroachment.
(D) Mandating that the lowest floor of new constructions be elevated above base flood elevation.

107. Which of the following is NOT an element of passive cooling design in buildings?
(A) Use of thermal mass to regulate diurnal temperature swings
(B) Natural cross-ventilation through building orientation
(C) Shading devices like external louvers and window overhangs
(D) Installation of centralized, energy-intensive HVAC systems

108. Which statement best describes the approach to drought proofing in water-stressed cities?
(A) Relying entirely on transporting water via trucks from various neighboring states indefinitely.
(B) Diversifying sources, enhancing recharge, minimizing leakage, and mandating water recycling.
(C) Prohibiting any form of rainwater harvesting due to potential contamination and health risks.
(D) Encouraging unrestricted water usage to maintain the visual aesthetics of large golf courses.

109. Under the State Action Plan on Climate Change (SAPCC) for Madhya Pradesh, which of the following is a key focus area for integrating climate responsiveness into urban planning?
(A) Promoting indiscriminate groundwater extraction to combat various heatwave effects in the city.
(B) Enhancing urban resilience through improved drainage, water conservation, and afforestation.
(C) Mandating the transition of all urban public transport to coal-powered steam engine systems.
(D) Declassifying existing urban green belts for heavy industrial use to boost the state economy.

110. Consider the following statements regarding climate change and health impacts in cities:
1. Increased frequency of heatwaves directly correlates with higher mortality rates among vulnerable populations like the elderly.
2. Urban flooding events increase the risk of waterborne diseases such as cholera and vector-borne diseases like dengue.
3. Climate-responsive planning has absolutely no bearing on urban public health outcomes.
4. Poor air quality, exacerbated by changing climatic conditions, intensifies respiratory illnesses.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

111. THE primary purpose of a "Climate Risk Assessment framework" for cities?
(A) To evaluate the commercial profitability of real estate developments in the central business district.
(B) To calculate the exact amount of property tax residents should pay based on household energy use.
(C) To identify and evaluate potential hazards, exposures, and vulnerabilities due to climate change.
(D) To dictate foreign policy regarding international climate treaties and multi-lateral agreements.

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100. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): Implementing cool roofs and cool pavements is a critical strategy in Heat Action Plans.
Reason (R): Cool surfaces have high albedo, meaning they reflect a large portion of incident solar radiation, thereby reducing surface temperatures and mitigating the urban heat island effect.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

101. Which of the following correctly pairs an urban vulnerability with its primary climate-responsive planning strategy?
(A) Urban Flooding – Promoting widespread use of impermeable concrete surfaces
(B) Water Stress – Rapidly depleting groundwater reserves through unmetered extraction
(C) Extreme Heat – Implementing cool roofs and increasing urban canopy cover
(D) Sea Level Rise – Locating critical infrastructure like power plants directly on the shoreline

102. Match the following Climate Responsive Strategies in List I with the Functional Mechanisms in List II:
List I: Climate Responsive Strategies
P. Albedo management
Q. Passive cooling
R. Flood resilience
S. Drought proofing
List II: Functional Mechanisms
1. Designing building orientation and shading to minimize solar heat gain without mechanical air conditioning
2. Creating bioswales, retention ponds, and permeable pavements
3. Using reflective paints and materials on roofs and streets to reject solar radiation
4. Implementing extensive rainwater harvesting and wastewater recycling
Codes:
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-2, S-3

103. Consider the following statements regarding Heat Action Plans:
Statement I: The Ahmedabad Heat Action Plan model emphasizes early warning systems, public awareness, and inter-agency coordination during extreme heat events.
Statement II: Heat action plans exclusively focus on planting trees and strictly prohibit any medical or healthcare interventions.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

104. Arrange the following steps in the logical sequence for a municipality operationalizing a Heat Action Plan during the summer season:
I. Establishing temperature thresholds and an early warning alert system in coordination with meteorology departments.
II. Pre-season capacity building of healthcare professionals to treat heat-related illnesses.
III. Triggering targeted public advisories and activating cooling centers based on meteorological forecasts.
IV. Conducting a post-season evaluation of heat-related mortality and morbidity data.
(A) I, II, III, IV
(B) II, I, III, IV
(C) I, II, IV, III
(D) III, II, I, IV

105. Which of the following statements regarding climate responsive street design is incorrect?
(A) It integrates street trees and green infrastructure to provide shading for pedestrians.
(B) It utilizes permeable paving materials in parking lanes to manage stormwater runoff.
(C) It carefully considers street orientation to maximize natural ventilation and breeze

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with high reflectivity to reduce surface temperatures.

118. A municipal corporation is attempting to reduce energy consumption for space cooling during summers. Applying the concept of passive cooling, what building-level intervention should be mandated in the local building bye-laws?

(A) Mandating external shading, optimal window ratios, and cavity walls for thermal insulation.

(B) Requiring 100% glass facades on western orientations without any external shading elements.

(C) Banning all operable windows to strictly rely on mechanical air conditioning in buildings.

(D) Demanding that buildings be painted in dark, heat-absorbing colors to maximize absorption.

119. Which of the following is NOT typically included as a core component in the preparation of a City Climate Action Plan?

(A) Greenhouse Gas (GHG) emissions inventory and baseline setting.

(B) Climate risk and vulnerability assessment for local infrastructure and communities.

(C) Sector-specific mitigation and adaptation strategies (e.g., transport, waste, energy).

(D) Detailed national defense and military deployment strategies.

120. What is the ultimate, most comprehensive goal of integrating climate responsive strategies into urban planning?

(A) To completely eliminate urbanization and return cities to their pre-industrial agricultural state.

(B) To create resilient, low-carbon urban environments safeguarding health, assets, and stability.

(C) To secure maximum international grant funding without implementing any actual structural changes.

(D) To ensure that all cities have identical spatial layouts regardless of geography and climate.

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112. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option:
Assertion (A): The Urban Heat Island (UHI) effect can be accurately mapped and analyzed using the Local Climate Zones (LCZ) classification.
Reason (R): LCZ classification categorizes urban areas based on surface cover, building density, and materials, which are the primary drivers of localized temperature variations.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

113. Which of the following correctly pairs a climate hazard with an appropriate infrastructure-level planning intervention?
(A) Extreme Cold – Promoting natural cross-ventilation and open breezeways
(B) Water Scarcity – Increasing the ratio of impermeable surfaces across the watershed
(C) Urban Flooding – Implementation of Sustainable Urban Drainage Systems (SUDS) and bioswales
(D) High Wind Storms – Constructing lightweight, unanchored temporary structures

114. Match the following Local Climate Zone (LCZ) classes given in List I with their corresponding urban descriptions given in List II
List I: Local Climate Zone Classes
P. LCZ 1 (Compact high-rise)
Q. LCZ 3 (Compact low-rise)
R. LCZ 6 (Open low-rise)
S. LCZ A (Dense trees)
List II: Typical Urban Description
1. Heavily wooded landscape of deciduous and/or evergreen trees
2. Dense mix of tall buildings with very few or no trees
3. Open arrangement of low-rise buildings with abundant pervious land cover
4. Dense mix of low-rise buildings with narrow streets and high thermal mass
Codes:
(A) P-2, Q-4, R-3, S-1
(B) P-4, Q-2, R-1, S-3
(C) P-2, Q-1, R-4, S-3
(D) P-1, Q-3, R-2, S-4

115. Consider the following statements regarding City Climate Action Plans:
Statement I: A comprehensive City Climate Action Plan addresses both climate mitigation (reducing emissions) and climate adaptation (building resilience).
Statement II: Such plans must legally supersede all national and state constitutions.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

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116. A city planner is redesigning a neighborhood to mitigate urban heat and reduce localized flooding. Which integrated application of climate-responsive strategies is most suitable?
(A) Installing green roofs, utilizing permeable paving, and planting native shade trees along walkways.
(B) Widening asphalt roads and removing all existing street trees to maximize traffic flow patterns.
(C) Covering all natural drainage channels with concrete to build additional urban parking lots.
(D) Painting all building roofs and streets black to absorb heat during the peak summer months.

117. Which of the following statements regarding albedo management in urban environments is incorrect?
(A) Albedo refers to the measure of the diffuse reflection of solar radiation out of the total.
(B) High-albedo surfaces like white roofs reflect more sunlight and absorb much less solar heat.
(C) Increasing urban albedo significantly increases energy required for mechanical space cooling.
(D) Cool pavements use materials or coatings

(D) It relies exclusively on increasing the number of incinerators without emphasizing source reduction or reuse.

94. A municipal corporation is drafting a green procurement policy for urban governance. Which practical criterion should be applied when purchasing new office furniture?
(A) Furniture must contain a minimum of recycled materials and be fully recyclable at end-of-life.
(B) Procuring furniture made exclusively from rare, endangered tropical hardwoods from forest zones.
(C) Purchasing the cheapest available single-use plastic furniture regardless of durability or age.
(D) Importing heavy metal-laden furniture from unregulated international markets to save local costs.

95. Which of the following is NOT a recognized requirement for establishing successful industrial symbiosis in an eco-industrial park?
(A) Geographic proximity of industries to minimize transport costs of heavy industrial byproducts.
(B) A diverse mix of industries ensuring one's waste matches another's raw material requirements.
(C) Total secrecy between neighboring industries regarding their respective waste and energy streams.
(D) Supportive regulatory frameworks that permit the legal transfer of various industrial byproducts.

96. What is the most critical factor for the long-term success of the "Sharing Economy" in reducing urban resource consumption?
(A) Eliminating all forms of digital communication and internet platforms across the urban area.
(B) Mandating that sharing platforms must purchase new vehicles every month to maintain operations.
(C) Banning peer-to-peer transactions entirely through stringent municipal zoning and land codes.
(D) Robust digital platforms matching supply with demand while ensuring trust and system reliability.

97. Given climate change projections, cities like Gwalior and Chhatarpur are highly vulnerable to which of the following climate risks, necessitating specific urban planning interventions?
(A) Coastal storm surges and oceanic flooding events
(B) Sea-level rise and saltwater intrusion impacts
(C) Severe heatwaves and resulting urban heat island effects
(D) Glacial lake outburst floods in high altitudes

98. Consider the following statements regarding climate change projections for Indian cities:
1. Average annual temperatures are projected to increase, exacerbating the Urban Heat Island effect.
2. Extreme rainfall events are likely to become more frequent and intense, increasing urban flood risks.
3. Coastal cities are immune to the effects of sea-level rise due to their dense built environment.
4. Water-stressed cities may face prolonged dry spells and more severe drought conditions.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

99. What does the "Local Climate Zones (LCZ)" classification system primarily characterize in urban planning?
(A) The different types of municipal taxation zones based on industrial pollution and land values.
(B) The classification of agricultural land based purely on average annual rainfall and soil type.
(C) Zoning that strictly demarcates areas where fossil fuel vehicles are permitted to park or idle.
(D) A framework classifying urban landscapes by physical structure and thermal properties for Urban Heat Island (UHI) study.

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ANSWERS

1. (C) To foster competitive federalism and monitor local-level progress towards global SDG targets.
Evaluating urban local bodies through a dedicated index encourages competitive federalism among cities. This mechanism allows for tracking municipal progress against global sustainability targets while identifying specific governance gaps. By monitoring local outcomes, the index ensures that city-level actions are aligned with international commitments, ultimately promoting accountability and data-driven decision-making in urban management and development.

2. (A) 1, 2, and 3 only
The global framework for sustainable development is structured around seventeen interconnected goals designed to address various global challenges. This comprehensive agenda includes exactly one hundred and sixty-nine targets to be achieved by the year twenty-thirty. Monitoring progress across nations involves a rigorous set of two hundred and thirty-two unique global indicators that track social, economic, and environmental metrics.

3. (D) A process where subnational and local governments voluntarily report on their progress toward the SDGs.
Voluntary Local Reviews serve as a critical tool for subnational governments to assess and report their specific contributions to the sustainable development agenda. This process allows cities to share their progress, challenges, and successes with national and international stakeholders. It facilitates local accountability and encourages the adaptation of global targets to fit the unique socioeconomic contexts of individual municipalities.

4. (A) Both A and R are true and R is the correct explanation of A.
Localizing the sustainable development agenda is vital because urban local bodies are the primary entities delivering essential services. These organizations manage land use, public health, and basic infrastructure, which are core components of city-level targets. Since these local functions directly influence the quality of urban life, empowering municipalities is necessary to achieve global objectives related to sustainable communities.

5. (C) Atal Mission (AMRUT) – SDG 6 (Clean Water and Sanitation)
The Atal Mission for Rejuvenation and Urban Transformation is specifically designed to improve basic infrastructure in cities. Its core objectives include providing universal coverage of water supply and establishing robust sewerage and septage management systems. Consequently, this national initiative is directly linked to the global goal of ensuring clean water and sanitation for all people in urban areas.

6. (A) P-3, Q-1, R-4, S-2
Sustainable development goals relate to specific urban sectors through targeted priorities. Goal six focuses on municipal sanitation and clean water access. Goal seven addresses the need for affordable and clean energy within cities. Goal eleven is dedicated to making urban settlements inclusive and safe. Finally, goal thirteen emphasizes the importance of local climate action plans to build urban resilience.

7. (C) Statement I is correct but Statement II is incorrect.
The New Urban Agenda was formally adopted during the United Nations Conference held in Quito in twenty-sixteen to guide sustainable urban development globally. While it provides a comprehensive roadmap for cities, it is not a legally binding treaty and does not impose mandatory population caps. Instead, it offers a strategic framework for inclusive growth and environmentally sound urban planning practices.

8. (B) IV, I, II, III
Preparing a local review involves a logical sequence starting with the creation of an institutional mechanism. Once a committee is formed, the city conducts a baseline assessment of existing indicators to understand its current

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24. (B) To align spatial development with globally recognized sustainability, equity, and resilience targets.
Integrating the sustainability framework into city master plans ensures that spatial development is guided by global principles of equity and resilience. This alignment helps cities address environmental challenges and social disparities through structured land-use planning. By incorporating these goals, planners can create urban environments that are not only economically productive but also sustainable and capable of withstanding various climatic and socioeconomic shocks.

25. (C) Scientific processing of municipal solid waste and biomethanation.
Cities can generate carbon credits by implementing projects that significantly reduce greenhouse gas emissions compared to traditional practices. Scientific management of municipal solid waste, including biomethanation, prevents the release of methane from landfills. By capturing and utilizing this gas for energy, the city reduces its environmental impact. These quantifiable reductions can then be monetized as carbon offsets in international markets.

26. (A) 1, 2, and 4 only
The global protocol for community-scale greenhouse gas emission inventories provides a standardized framework for cities to measure and report their emissions. It categorizes emissions into three scopes, allowing for a comprehensive view of both direct and indirect sources. This protocol is essential for establishing an accurate baseline, which enables municipal authorities to set realistic climate targets and monitor progress.

27. (A) Greenhouse gases produced directly and indirectly to support human activities in the city.
A city's carbon footprint represents the total volume of greenhouse gases emitted as a result of various urban activities. This includes direct emissions from fuel combustion within city limits and indirect emissions from the consumption of electricity and goods produced elsewhere. Measuring this footprint is a fundamental step for municipal authorities to identify major emission sources and develop effective mitigation strategies.

28. (A) Both A and R are true and R is the correct explanation of A.
Promoting a compact city model is a primary strategy for achieving low-carbon urban development. High-density, mixed-use planning reduces the physical distance between homes, jobs, and services. By making destinations more accessible, this form of urban growth discourages long commutes and encourages walking or public transit. Consequently, it leads to a significant reduction in transportation-related energy consumption and emissions.

29. (B) Building sector – Adoption of Green Building certifications (e.g., GRIHA, LEED)
Sector-specific mitigation strategies are essential for reducing urban emissions. In the building sector, adopting green certifications ensures that structures are designed for maximum energy and water efficiency. These frameworks encourage the use of sustainable materials and passive design techniques. By improving the environmental performance of the built environment, cities can significantly lower their operational carbon footprint and overall energy demand.

30. (A) P-3, Q-4, R-1, S-2
Net-zero and low-carbon planning involve several key concepts. A carbon budget defines the total permissible emissions within a specific temperature threshold. Offsets allow for compensating emissions by investing in reduction projects elsewhere. A net-zero city balances all produced emissions with removals. Finally, scope two emissions specifically refer to indirect greenhouse gases resulting from the generation of purchased electricity used by the city.

31. (C) Statement I is correct but Statement II is incorrect.
The C40 network is an international coalition of leading cities dedicated to addressing the climate crisis through urgent, science-based actions. While several major Indian cities are active members, participation is not legally mandated for all million-plus cities under national schemes. Membership is voluntary and based on a city's commitment to implementing ambitious climate goals and sharing best practices globally.

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16. (A) Both A and R are true and R is the correct explanation of A.
The national mission for urban rejuvenation contributes significantly to clean water goals by focusing on infrastructure development. It prioritizes the creation of reliable water supply networks and modern sewerage systems within urban local bodies. By improving septage management and sanitation services, the scheme directly supports the achievement of global targets for clean water access and sustainable municipal service delivery.

17. (C) SDG 13 – Preparation of City Climate Action Plans
Sustainable development goals are integrated into urban planning through specific strategic documents. Goal thirteen focuses on climate action, which is implemented at the city level through comprehensive climate action plans. These plans identify vulnerabilities and outline strategies for mitigation and adaptation. Other goals address separate issues like energy, water, and heritage, each requiring specialized planning interventions for effective local implementation.

18. (A) P-4, Q-1, R-2, S-3
Various national missions target different aspects of urban sustainability and resource management. The smart cities mission provides a holistic approach to urban development. Sanitation and waste management are the primary focus of the Swachh Bharat Mission. Solar energy initiatives like the Surya Ghar Yojana address clean energy goals, while the AMRUT scheme concentrates on building water supply networks.

19. (C) Statement I is correct but Statement II is incorrect.
The national index serves as a comprehensive tool for tracking the performance of states and union territories in achieving sustainability targets. Contrary to the idea of local exemption, state-level rankings significantly influence municipal policies. Local planning is increasingly aligned with these targets to ensure that regional and national goals are met through coordinated actions at the city and district levels.

20. (A) Subsidizing rooftop solar installations and upgrading to smart grids.
When an urban scorecard indicates a lag in energy-related goals, planners should prioritize interventions that promote clean and renewable power. Subsidizing rooftop solar installations directly addresses the need for sustainable energy production. Furthermore, upgrading to smart grids enhances the efficiency of power distribution. These actions help the city improve its performance on energy targets without diverting resources from already successful sectors.

21. (C) It mandated a halt to rural-to-urban migration by 2030.
The conference held in Quito established a global framework for sustainable urban development known as the New Urban Agenda. This agenda emphasizes inclusive growth, the right to the city, and the localization of development goals. However, it does not mandate a halt to migration. Instead, it seeks to manage urban growth in a way that is equitable, sustainable, and productive.

22. (A) Insufficient data granularity exists at the ward and municipal levels for many macro-economic indicators.
A major challenge in applying global indicators at the local level is the lack of detailed data. Many macroeconomic metrics are traditionally collected at national or state scales, making them difficult to replicate for individual wards or municipalities. This data gap complicates the process of monitoring specific local impacts and requires the development of more granular data collection systems.

23. (D) Promoting raw coal for domestic cooking in urban slums.
Localizing energy goals in urban areas involves transitioning away from fossil fuels toward cleaner alternatives. Strategies include expanding solar rooftop potential, enhancing energy efficiency in civic buildings, and implementing smart grids. Promoting the use of raw coal is contrary to these objectives, as it contributes to air pollution and greenhouse gas emissions, which the framework specifically aims to reduce.

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status. Subsequently, municipal schemes are mapped to specific global targets. The final step is publishing and presenting the report to relevant national and international stakeholders for review.

9. (C) India's SDG urban scorecard utilizes the UN global framework indicators without any local adaptation.
The national approach to tracking urban progress involves customizing international frameworks to suit local data availability and domestic priorities. India's urban scorecard maps central schemes like the smart cities mission to sustainability targets while adapting indicators for municipal governance. This ensures that the rankings are relevant to the specific challenges faced by Indian states and their respective urban local bodies.

10. (D) Zoning vulnerable low-lying areas as non-developable green buffers to manage urban flooding.
Effective climate action in urban planning involves spatial interventions that reduce vulnerability to extreme weather events. By zoning low-lying areas as green buffers, planners can naturally manage stormwater and reduce flood risks. This strategy protects urban populations and infrastructure from climate-related disasters while simultaneously increasing green cover and biodiversity, which helps in cooling the city and sequestering carbon.

11. (A) Eliminating all forms of agricultural subsidies in peri-urban zones.
Specific targets for sustainable cities focus on enhancing the quality of urban life through inclusive planning and basic service delivery. Key objectives include ensuring access to safe and affordable housing, improving public transportation, and protecting cultural heritage. While targets support links between urban and rural areas, they do not explicitly mandate the elimination of agricultural subsidies within the peri-urban zones.

12. (B) It utilizes the National Indicator Framework to contextualize global targets to national data systems.
Monitoring urban progress in the country relies on a structured framework that adapts global targets to the national context. This approach ensures that indicators are compatible with existing data collection systems, such as census records and municipal reports. By using the national indicator framework, authorities can accurately measure the performance of cities while reflecting the specific socioeconomic realities of India.

13. (B) To assess and showcase local policy alignments, gaps, and progress on SDGs to citizens and global platforms.
Engaging in a voluntary local review allows municipal corporations to evaluate their policy effectiveness and identify development gaps. This exercise serves as a platform for transparency, showcasing the city's progress on sustainability goals to both citizens and the international community. It strengthens local governance by aligning municipal planning with global benchmarks, facilitating better resource allocation and future policy improvements.

14. (B) 1, 2, and 3 only
Targets for sustainable cities emphasize improving the living conditions of residents through slum upgrading and providing affordable housing. The framework also focuses on reducing the environmental impact of urban areas by improving air quality and managing municipal waste. These goals prioritize making human settlements inclusive and resilient, though they do not mandate a total reliance on nuclear energy for operations.

15. (C) Translating global agendas into city-level plans and integrating them into municipal governance.
Localizing the development agenda involves adapting global sustainability objectives to the specific needs and capacities of cities. This process requires integrating international targets into municipal governance structures and local development plans. By doing so, city authorities can address unique local challenges while contributing to the overall achievement of worldwide goals, ensuring that global principles lead to tangible local improvements.

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32. (A) I, II, IV, III
Developing a greenhouse gas inventory follows a structured process to ensure accuracy and transparency. The process begins with defining the geographic boundary and the inventory year. Data regarding fuel and electricity consumption across various sectors is then collected. After calculating emissions using specific factors, the final results are used as a baseline to set informed and realistic emission reduction targets.

33. (C) Net-zero cities must completely eradicate all forms of energy consumption and industrial activities.
Transitioning to net-zero status involves deep decarbonization across all urban sectors, including energy, transport, and buildings. This requires moving toward renewable energy sources and enhancing efficiency, rather than eliminating all industrial activities or energy use. Residual emissions that cannot be removed are balanced through carbon sequestration or offsets. This ensures that the city remains productive while neutralizing its overall impact on the climate.

34. (B) Permitting only zero-emission or high-standard low-emission vehicles to enter the zone.
Low-emission zones are a targeted urban intervention designed to improve air quality and reduce greenhouse gas emissions in specific areas. By restricting access to vehicles that do not meet strict emission standards, municipalities encourage the adoption of cleaner technologies like electric vehicles. This strategy reduces localized pollution and promotes more sustainable transport choices, making the central business district healthier and more liveable.

35. (D) Incentivizing urban sprawl and scattered development.
Low-carbon urban planning focuses on strategies that reduce energy demand and promote efficiency. Key approaches include transit-oriented development, non-motorized transport infrastructure, and district heating systems. Incentivizing urban sprawl is contrary to these goals, as scattered development increases travel distances and infrastructure costs. This leads to higher transportation emissions and greater land consumption, undermining efforts to create sustainable and low-carbon urban environments.

36. (A) Focus on building efficiency, mass rapid transit expansion, and improved waste management.
India's national climate commitments emphasize the role of cities in reducing greenhouse gas emissions. The strategy includes enhancing the energy efficiency of buildings and expanding mass rapid transit systems to reduce reliance on private vehicles. Additionally, improving municipal waste management is a priority to minimize methane emissions from landfills. These actions align urban development with the country's broader climate goals.

37. (C) Integration of solar energy to meet power demands, aligning with net-zero carbon pathways.
Sanchi's transformation into a solar city demonstrates how urban areas can transition toward renewable energy. By integrating solar power to meet its total energy requirements, the city aligns with net-zero carbon pathways. This strategy reduces dependence on fossil fuels and serves as a model for decentralized renewable energy generation. Such initiatives are critical for building sustainable cities and achieving national climate targets.

38. (A) 1, 2, and 3 only
Carbon credits represent a quantifiable reduction in emissions, where one credit usually equals one metric ton of carbon dioxide equivalent. Cities use these credits to monetize successful projects like scientific waste management or urban afforestation. Rather than being a loophole, they provide a financial incentive for municipalities to implement mitigation strategies. This mechanism helps fund sustainable infrastructure while contributing to global climate goals.

39. (D) Maximum cumulative net greenhouse gas emissions allowed to limit global warming to a specific target.
A carbon budget is a scientific concept used in climate planning to define the limit of greenhouse gases that can be emitted globally or locally. This budget is based on the remaining emissions allowed to keep temperature increases within specific targets, such as one point five degrees Celsius. For cities, staying within this budget requires strict monitoring and aggressive decarbonization strategies.

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to store energy and supply it back to the grid during high demand. This dual function supports grid stability and facilitates the integration of intermittent renewable sources like solar and wind.

56. (A) I, II, III, IV
The process for connecting a residential solar system to the grid follows a specific administrative sequence. It begins with a feasibility study by the local distribution company to ensure the grid can handle the input. Following approval, the system is installed by a qualified vendor. A bi-directional meter is then installed to track energy flow. Finally, any applicable government subsidies are disbursed to the consumer after successful commissioning.

57. (C) WtE plants are only viable in cities with a population of less than 50,000 due to feedstock constraints.
Waste-to-energy plants are technology-intensive facilities that generally require a large and consistent supply of municipal waste to be economically viable. Consequently, they are often more suitable for larger cities with significant waste generation rates. These plants help reduce landfill pressure and produce energy, but they require sophisticated emissions controls. Biomethanation is a specific waste-to-energy process ideal for managing the organic fraction of urban waste.

58. (D) Introducing Time-of-Use pricing to encourage residents to run appliances during off-peak hours.
Demand-side management focuses on influencing how and when consumers use electricity to improve grid efficiency. Implementing time-of-use pricing is a key tool, as it provides financial incentives for residents to shift their energy-intensive activities to off-peak periods. This reduces the strain on the grid during peak hours and can minimize the need for additional power plant capacity. It is a critical component of smart urban energy planning.

59. (A) It eliminates the need for initial capital investment in anaerobic digester infrastructure.
Utilizing biogas from sewage treatment plants is an effective way to recover resources from urban waste. This process captures methane to produce electricity or heat, contributing to a circular economy and reducing greenhouse gas emissions. While beneficial, it requires significant initial capital investment in anaerobic digesters and related infrastructure. Once established, it provides a renewable energy source that helps lower the operational costs and environmental impact of the plant.

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60. (B) Projects mandate at least 10% of the Smart City's energy requirement to come from solar energy.
India's smart city guidelines emphasize the integration of renewable energy to ensure sustainable urban growth. Projects are required to meet a minimum of ten percent of their energy demand through solar power. This mandate encourages the installation of decentralized solar systems within the city. By promoting clean energy, the mission aims to reduce the carbon intensity of urban areas while enhancing energy security and promoting modern infrastructure.

61. (B) Delhi Metro Rail Corporation (DMRC)
The Rewa solar project is a landmark in utility-scale renewable energy, supplying clean power across state boundaries. A significant portion of its generation is dedicated to the Delhi Metro, making it one of the first major urban transit systems to be powered largely by solar energy. This partnership demonstrates how large-scale renewable projects can support sustainable urban mobility in distant metropolitan areas, reducing the environmental impact of public transportation.

62. (B) 1, 3, and 4 only
Wind energy can be integrated into urban environments through micro-turbines on buildings, though building density often causes challenging turbulence. Large-scale wind farms are generally not suitable for central districts due to space and noise constraints. Peri-urban areas with flat terrain offer better conditions for community-scale projects. Planners must carefully analyze local wind patterns and urban form to identify the most effective locations for wind energy generation in cities.

plant is located far away. Understanding these distinctions is vital for cities to accurately track and manage their impact.

48. (D) Coupling aggressive energy efficiency measures with a transition to 100% renewable energy grids.
The most effective pathway to a net-zero urban future involves a dual approach of reducing demand and cleaning the supply. Aggressive energy efficiency measures in buildings and transport minimize the total energy needed. Simultaneously, transitioning to renewable energy grids ensures that the remaining demand is met with zero-carbon power. This combination address the root causes of emissions, creating a sustainable and resilient urban energy system.

49. (C) Madhya Pradesh Urja Vikas Nigam Limited (MPUVNL)
Within the administrative framework of Madhya Pradesh, MPUVNL is the nodal agency for renewable energy development. It coordinates the implementation of solar policies and incentive schemes across the state. This includes managing programs for rooftop solar in urban areas and promoting alternative energy sources. Their role is critical in aligning municipal energy use with state and national sustainability goals through technical and administrative support.

50. (B) 1, 3, and 4 only
Integrating renewable energy into urban areas involves multiple strategies, including residential solar programs and waste-to-energy plants. Smart grids play a vital role by managing fluctuating energy inputs and enabling demand-side management. Contrary to discouraging panels, modern policies like net metering are designed to incentivize private investment in solar technology. These combined efforts are essential for modernizing urban energy systems and reducing the carbon intensity of cities.

51. (D) PV materials used to replace conventional building materials in roofs, skylights, or facades.
Building Integrated Photovoltaics represent a specialized application where solar technology is an intrinsic part of the structure. Instead of being added as separate panels, these materials serve as the actual building skin, such as windows, roofs, or walls. This approach saves space and material costs while generating clean energy. It is particularly valuable in dense urban environments where traditional land for solar farms is limited.

52. (A) Both A and R are true and R is the correct explanation of A.
Net metering is a fundamental policy for promoting urban solar adoption because it provides financial benefits to consumers. By allowing surplus energy to be fed back into the grid, the policy effectively reduces the user's electricity bill. This makes the investment in solar technology more attractive for homeowners and businesses. Such mechanisms are essential for achieving large-scale integration of decentralized renewable energy in municipal areas.

53. (C) Solar Parks – Typically require large tracts of land, often sited in peri-urban or designated utility zones
Different renewable energy technologies have distinct spatial requirements in an urban context. Utility-scale solar parks require significant land area, making them more suitable for peri-urban locations or designated utility zones. In contrast, technologies like rooftop solar and BIPV are ideal for the dense urban core. Understanding these spatial constraints is crucial for planners when allocating land and developing infrastructure for a city's clean energy transition.

54. (A) P-2, Q-4, R-1, S-3
Modern urban energy systems utilize various technologies and policies to ensure efficiency. Smart grids use digital technology for two-way communication between utilities and consumers. Net metering provides a billing mechanism for solar owners. District heating distributes thermal energy from a central plant to multiple buildings. Demand-side management includes strategies that encourage residents to change their electricity usage patterns, reducing the overall peak load on the system.

55. (A) Both Statement I and Statement II are correct.
Combining electric vehicles with a renewable energy grid maximizes the environmental benefits of zero-tailpipe transport. When charged with clean energy, EVs significantly reduce a city's total carbon footprint. Furthermore, vehicle-to-grid technology allows car batteries

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ensures a steady market for recycled products and helps manage the growing volume of rubble. By integrating these materials into municipal works, the state promotes resource efficiency and sustainable urban development.

86. (B) 1, 2, and 4 only
Modern wastewater management focuses on recovering valuable resources rather than just disposal. Treated effluent is suitable for many industrial and agricultural uses, while anaerobic digestion of sludge generates biogas for energy. These processes transform treatment plants into resource recovery facilities that contribute to a city's energy and water security. While challenging, technologies also exist for recovering nutrients like phosphorus, ensuring that wastewater is treated as a multi-dimensional resource.

87. (D) Producers are given responsibility—financial and/or physical—for the treatment of post-consumer products.
Extended producer responsibility is a policy approach that shifts the burden of waste management from municipalities back to the manufacturers. Producers are held accountable for the entire lifecycle of their products, especially the collection and recycling of items at the end of their use. This mechanism encourages companies to design more durable and recyclable products. By internalizing the costs of disposal, EPR promotes a more circular and sustainable manufacturing and waste management ecosystem.

88. (A) Both A and R are true and R is the correct explanation of A.
A thriving repair economy is fundamental to sustainable development because it extends the lifespan of products and infrastructure. By prioritizing repair over replacement, cities can significantly reduce the amount of waste sent to landfills and decrease the demand for raw material extraction. This approach also supports local jobs and skills. Consequently, fostering a culture of maintenance and repair is an essential strategy for achieving long-term urban resource efficiency.

89. (C) Material Recovery Rate – The percentage of waste diverted from landfills and recycled or reused.
Circular economy indicators help cities measure their progress in resource management and efficiency. The material recovery rate is a primary metric, reflecting the percentage of total waste that is successfully recycled or reused instead of being disposed of in landfills. This indicator provides clear insight into the effectiveness of a city's waste segregation and processing systems. Monitoring such metrics allows municipal authorities to refine their policies and achieve higher sustainability targets.

90. (A) P-3, Q-1, R-4, S-2
Different types of urban waste require specialized recovery methods to support a circular economy. Electronic waste is mined for precious metals, while organic wet waste is best managed through biomethanation or composting. Construction debris is crushed and graded for use in road sub-bases. Wastewater sludge undergoes anaerobic digestion to produce biogas. These targeted strategies ensure that each waste stream is utilized to its highest potential, reducing the city's total environmental footprint.

91. (C) Statement I is correct but Statement II is incorrect.
Eco-industrial parks are designed to optimize resource flows by applying the principles of industrial symbiosis among co-located businesses. Far from working in isolation, these industries are encouraged to share infrastructure and exchange byproducts. This collaboration allows for the efficient use of energy, water, and materials, reducing costs and waste for all participants. Such integrated systems are a hallmark of modern sustainable industrial planning and significantly improve the overall resource efficiency of manufacturing zones.

92. (B) Waste heat from a power plant is captured and supplied to a food processing unit for boiling.
Industrial symbiosis involves the exchange of resources and byproducts between different manufacturing units to maximize efficiency. A classic example is capturing waste heat from a power generation facility and using it for thermal processes in a nearby food plant. This arrangement reduces the total energy demand

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63. (C) An electricity network using digital technology to detect and react to local usage changes.
A smart grid represents an advanced electrical network that integrates digital communication technology into the power system. This allows for real-time monitoring and management of electricity flows between producers and consumers. By reacting to localized usage changes, the system improves reliability and efficiency. It also facilitates the integration of distributed renewable energy and electric vehicles, which are essential components of modern, sustainable urban infrastructure.

64. (A) Both A and R are true and R is the correct explanation of A.
District heating and cooling systems offer significant energy efficiency benefits in high-density urban areas. By generating thermal energy at a centralized facility, these systems can utilize large-scale efficient equipment and waste heat. The energy is then distributed through insulated pipes to multiple buildings, eliminating the need for individual heating and cooling units. This model achieves economies of scale and reduces the total energy demand of the urban built environment.

65. (C) Sludge digestion – Production of biogas for electricity generation
Resource recovery from wastewater is a key aspect of circular urban management. Sludge digestion involves the anaerobic breakdown of organic solids to produce biogas, which can be used for electricity or heating. This process reduces waste volume while generating renewable energy. Other recovery efforts include using treated effluent for industrial purposes or extracting nutrients like phosphorus for fertilizers, transforming treatment plants into valuable resource recovery facilities.

66. (A) P-4, Q-1, R-2, S-3
Waste-to-energy involves various thermal and biological processes. Incineration uses high-temperature combustion, while biomethanation relies on anaerobic digestion of organic matter to produce biogas. Pyrolysis involves the thermal decomposition of waste in the absence of oxygen to create fuel products. Landfill gas recovery captures methane emitted from legacy waste. These technologies allow cities to manage waste while recovering energy, significantly reducing the environmental impact of urban disposal.

67. (C) Statement I is correct but Statement II is incorrect.
Building Integrated Photovoltaics serve a dual function by providing both structural protection and energy generation. Because these materials replace traditional components like roofs or facades, they do not require any additional land. This makes them an ideal solution for dense cities where space is a major constraint. While they are more integrated than traditional panels, their primary challenge relates to cost and installation complexity rather than land use requirements.

68. (A) Implementing large-scale battery energy storage systems integrated with a smart grid.
Managing the intermittency of solar and wind power is a primary challenge for cities aiming for high renewable energy integration. Large-scale battery storage systems allow for the capture of surplus energy during peak production for use during periods of low generation. When integrated with a smart grid, these systems ensure a stable and reliable power supply. This technological combination is essential for creating resilient, one-hundred-percent renewable urban energy networks.

69. (C) EVs can only be charged using dedicated fossil-fuel generators to protect grid stability.
Integrating electric vehicles with the grid offers numerous opportunities for enhancing urban sustainability. Charging during peak solar hours helps align energy demand with renewable supply. Furthermore, vehicle-to-grid systems allow EVs to provide stability services to the grid. EVs do not require fossil-fuel generators; instead, they are designed to be part of a clean energy ecosystem that reduces total emissions and supports the transition to renewable power.

70. (A) Consumers are billed only for "net" electricity, with solar power offsetting grid power.
Net metering is a billing arrangement that allows solar owners to use the grid as a virtual battery. When the solar panels produce more electricity than the building consumes, the surplus is fed back into the grid. The consumer is then billed only for the net difference between

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40. (A) Both A and R are true and R is the correct explanation of A.
The waste sector is a significant source of methane, which is a highly potent greenhouse gas. This occurs because organic waste undergoes anaerobic decomposition when disposed of in unscientific, open dumpsites. Without proper management and gas capture, this methane is released into the atmosphere. Scientific landfilling and waste-to-energy processes are therefore essential strategies for reducing a city's overall carbon footprint.

41. (C) Cool Roofs and Energy Conservation Building Code (ECBC) – Building Sector
Different low-carbon strategies are tailored to specific urban sectors to maximize their impact. Cool roofs and energy conservation codes are primary tools for the building sector, aimed at reducing energy needed for cooling. Similarly, other strategies like transit-oriented development target the transport sector, while extended producer responsibility addresses waste. Correctly matching these strategies ensures that municipal policies effectively reduce sectoral emissions.

42. (A) P-4, Q-1, R-2, S-3
Urban emission sources require specific mitigation strategies to be effective. Traffic congestion is addressed through dedicated bus rapid transit and pedestrian corridors. High cooling demands in buildings are mitigated by green roofs and passive design. Organic waste is managed through biomethanation or composting to prevent methane release. Street lighting emissions are reduced by retrofitting with energy-efficient LED technology and smart grid integration.

43. (C) Statement I is correct but Statement II is incorrect.
A compact city form promotes high-density, mixed-use development, which is effective in reducing travel distances and transport emissions. However, this physical form does not inherently guarantee zero emissions from buildings. The building sector's footprint depends on the energy sources used for heating, cooling, and electricity. Therefore, compact planning must be combined with renewable energy and efficiency measures to achieve total decarbonization.

44. (B) Clustered residential and commercial developments within 500 meters of public transit nodes.
Low-carbon spatial planning for transport emphasizes transit-oriented development. By clustering high-density residential and commercial activities near public transit nodes, planners make sustainable commuting more convenient for residents. This strategy reduces the need for private vehicle use and minimizes travel distances. Such developments are essential for creating low-carbon cities where residents can easily access their daily needs without relying on fossil-fuel transportation.

45. (B) Frameworks exclusively evaluate aesthetic value, ignoring energy and water efficiency.
Green building frameworks are designed to minimize the environmental impact of structures throughout their entire lifecycle. They prioritize energy and water efficiency, use of sustainable materials, and reduction of operational carbon. These systems go far beyond aesthetic considerations, focusing on technical performance and occupant health. By incorporating features like passive solar design and renewable energy, green buildings play a crucial role in urban mitigation.

46. (A) Investing in certified emission reduction projects to compensate for the remaining emissions.
Achieving net-zero status often requires the use of carbon offsets to balance residual emissions from essential services that cannot yet be fully decarbonized. In this context, the municipality invests in verified projects that reduce or remove greenhouse gases elsewhere. This allows the city to neutralize its total impact on the atmosphere. It is a transitionary mechanism used alongside aggressive local emission reduction efforts.

47. (C) Indirect emissions from grid electricity imported from a power plant 200 km outside the city.
Under the global protocol for city emissions, greenhouse gases are categorized based on their source. Scope one includes all direct emissions occurring within the city boundary, such as fuel burned in vehicles or homes. Scope two covers indirect emissions from the generation of grid-supplied electricity, even if the power

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manufacturers in e-waste management. The sharing economy is exemplified by municipal bike-sharing and car-pooling systems. Resource recovery includes extracting biogas from wastewater treatment processes. Finally, product life extension is supported by right-to-repair laws and modular designs, ensuring that goods remain functional and out of landfills for longer periods.

79. (C) Statement I is correct but Statement II is incorrect.
Green procurement policies require government bodies to consider environmental impacts when purchasing goods and services. This involves prioritizing products with lower life-cycle footprints, including those made from recycled or remanufactured materials. Far from forbidding such goods, these policies actively encourage their use to support the growth of circular markets. By using their purchasing power, municipal authorities can drive demand for sustainable products and promote more responsible industrial practices.

80. (A) I, II, III, IV
Transitioning to a circular flow in construction involves a specific lifecycle for materials. It starts with sourcing raw materials for the initial structure. At the end of the building's life, it is demolished, and the resulting rubble is processed into recycled aggregates. These materials are then utilized in new construction projects, such as urban pavements. This sequence ensures that construction debris is recovered and reused, reducing the demand for virgin resources.

81. (C) It inherently prioritizes industrial symbiosis and closed-loop manufacturing.
The linear economy model follows a straightforward path of extraction, production, and disposal, often resulting in significant waste. This model assumes that natural resources are abundant and that the environment can indefinitely absorb waste. Unlike the circular model, it does not prioritize resource recovery or industrial symbiosis. Because it lacks closed-loop systems, the linear approach leads to the depletion of finite materials and contributes to growing environmental challenges in urban areas.

82. (B) Treating greywater locally to a standard suitable for toilet flushing and landscape irrigation.
Circular economy principles in water management focus on reducing the demand for fresh water through recycling and reuse. Treating greywater from sinks and showers for non-potable uses like toilet flushing or irrigation is a highly effective strategy. This approach minimizes wastewater discharge and conserves valuable drinking water resources. By implementing local treatment and reuse systems, urban developments can become more water-secure and significantly reduce their overall environmental impact.

83. (D) Mandating every citizen to independently purchase heavily utilized heavy machinery items.
The sharing economy promotes access to products and services over individual ownership, maximizing the utilization of underused assets. By using digital platforms to share items like cars, tools, or office spaces, cities can reduce the total demand for new products. This model decreases resource consumption and waste while lowering costs for residents. Mandating independent ownership of rarely used heavy machinery would be contrary to these principles and would increase urban resource intensity.

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84. (A) Recycled C&D waste can be used for paver blocks, non-structural concrete, and road sub-base.
Construction and demolition waste can be successfully recycled into various useful materials for urban infrastructure. Once processed, concrete rubble and bricks can be used for manufacturing paver blocks or as a sub-base for roads. This practice diverts large volumes of heavy waste from landfills and reduces the need for new quarrying. National laws increasingly support the use of recycled aggregates in public works, promoting a more circular construction sector.

85. (C) Establishing processing plants and utilizing recycled aggregates in municipal civil works.
Policies for managing construction waste in major cities of Madhya Pradesh mandate that municipal bodies establish dedicated processing facilities. These plants convert debris into recycled aggregates, which are then required to be used in government construction projects. This mandate

what they consumed and what they generated. This financial mechanism encourages private investment in renewable energy by reducing long-term electricity costs for owners.

71. (D) A complete lack of solar radiation hitting the Indian subcontinent.
Implementing rooftop solar in dense Indian cities faces several practical obstacles. Shading from adjacent tall buildings and fragmented roof ownership in apartments often complicate installations. Additionally, limited roof space must compete with other essential uses like water tanks and HVAC units. However, the Indian subcontinent receives abundant solar radiation throughout the year, making solar energy a technically viable and highly promising resource for urban power generation.

72. (B) To install rooftop solar in one crore households, providing up to 300 units of free power.
The PM Surya Ghar Yojana is a national initiative aimed at significantly expanding residential solar adoption. Its primary objective is to install rooftop solar systems in ten million households across the country. This program provides substantial financial incentives and aims to offer up to three hundred units of free electricity per month. By decentralizing power generation, the scheme promotes clean energy, reduces household bills, and supports national sustainability goals.

73. (C) Wet municipal solid waste (organic fraction)
The Bio-CNG plant in Indore utilizes the organic fraction of municipal solid waste as its primary feedstock. By processing wet waste through biomethanation, the facility produces clean-burning fuel for public transport and other uses. This approach represents a successful circular economy model that manages urban waste while reducing reliance on fossil fuels. It demonstrates how cities can transform a waste disposal challenge into a valuable resource for urban mobility.

74. (A) 1, 2, and 4 only
A circular economy aims to decouple economic growth from the consumption of finite resources by keeping materials in use for as long as possible. The model is based on principles like reduce, reuse, and recycle, and it emphasizes a robust repair economy. Unlike the linear approach of take-make-dispose, circularity focuses on product life extension and resource recovery. This strategy is essential for creating sustainable urban systems that minimize waste and environmental impact.

75. (A) Extracting precious metals and materials from e-waste, C&D waste, and old infrastructure.
Urban mining is the process of recovering valuable materials from the waste streams of cities rather than from traditional underground mines. This includes extracting metals from electronic waste and recycling aggregates from construction debris. By viewing the city's waste as a resource, this practice reduces the demand for virgin raw materials and minimizes environmental degradation. It is a core strategy for achieving resource efficiency and supporting a circular urban economy.

76. (A) Both A and R are true and R is the correct explanation of A.
Industrial symbiosis is a practical application of circular principles within eco-industrial parks. In this model, co-located industries form a network where the waste or byproducts of one company serve as the raw material for another. This arrangement optimizes resource use and significantly reduces the total amount of waste generated by the industrial cluster. Such collaboration enhances economic competitiveness while minimizing the environmental footprint of the entire manufacturing zone.

77. (B) Reuse – Designing modular buildings where components can be disassembled and used elsewhere.
The principle of reuse in a circular economy involves designing products and infrastructure for multiple lifecycles. In the construction sector, modular building design allows components to be easily disassembled and reused in different projects. This approach minimizes the need for demolition and reduces the consumption of new materials. By prioritizing reuse over disposal, cities can significantly lower the environmental impact of their built environment and support long-term sustainability.

78. (A) P-4, Q-3, R-1, S-2
Circular economy concepts are applied in various urban sectors to maximize resource efficiency. Extended producer responsibility involves

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and carbon emissions of the industrial cluster. By creating these interdependencies, planners can develop more sustainable and economically competitive industrial zones that minimize resource waste.

93. (D) It relies exclusively on increasing the number of incinerators without emphasizing source reduction or reuse.
Transitioning to a circular economy requires a fundamental shift in how products are designed and used, focusing on modularity and longevity. The model aims to eliminate waste by ensuring materials circulate safely within the economy through various reuse and recycling loops. It also promotes innovative business models like product-as-a-service. Simply increasing incineration capacity without addressing source reduction or reuse would be contrary to circular principles, which prioritize keeping resources at their highest value.

94. (A) Furniture must contain a minimum of recycled materials and be fully recyclable at end-of-life.
Green procurement in urban governance involves selecting products that support circular economy goals. When purchasing office furniture, municipal bodies should look for items made from recycled materials that are also designed for easy recycling after their use. This criterion ensures that the environmental impact of the procurement is minimized across the entire product lifecycle. Such policies help stimulate markets for sustainable goods and demonstrate the city's commitment to responsible resource management.

95. (C) Total secrecy between neighboring industries regarding their respective waste and energy streams.
Successful industrial symbiosis depends on transparency and communication between co-located businesses. For one industry to use another's waste as a resource, there must be a shared understanding of available materials and energy streams. Maintaining total secrecy would prevent these beneficial exchanges from occurring. Supportive regulatory frameworks and geographic proximity also play key roles in facilitating the legal and cost-effective transfer of byproducts, ensuring the long-term success of the eco-industrial park.

96. (D) Robust digital platforms matching supply with demand while ensuring trust and system reliability.
The long-term success of the sharing economy in cities depends on efficient digital platforms that can accurately match supply and demand. These systems must also ensure trust between users through reliable verification and rating mechanisms. By making it easy and safe for residents to share resources, these platforms can significantly reduce the need for individual ownership of goods. This shift lowers overall urban resource consumption and supports more sustainable and inclusive lifestyles.

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97. (C) Severe heatwaves and resulting urban heat island effects
Inland cities like Gwalior and Chhatarpur are particularly vulnerable to extreme heat events due to their geographic location and urban density. These areas frequently experience severe heatwaves, which are exacerbated by the urban heat island effect, where buildings and pavements retain heat. Addressing these risks requires specific planning interventions, such as increasing green cover and implementing heat action plans, to protect public health and ensure the thermal comfort of urban populations.

98. (B) 1, 2, and 4 only
Climate projections for Indian cities indicate a trend toward rising average temperatures and more frequent extreme weather events. These include intense rainfall that increases the risk of urban flooding and prolonged dry spells that exacerbate water stress in vulnerable areas. Coastal cities are also highly susceptible to sea-level rise despite their built density. Understanding these diverse risks is essential for planners to develop effective strategies for building urban resilience across different geographic regions.

99. (D) A framework classifying urban landscapes by physical structure and thermal properties for Urban Heat Island (UHI) study.
The local climate zones classification system is a standardized framework used by planners to study urban temperatures. It categorizes different parts of a city based on their physical characteristics,

such as building height, density, and the type of ground cover. These factors directly influence how heat is absorbed and released, driving the urban heat island effect. Using this system allows for more precise mapping of heat risks and more effective cooling interventions.

100. (A) Both A and R are true and R is the correct explanation of A.
Cool roofs and pavements are essential tools for mitigating extreme heat because of their high albedo. These surfaces are designed to reflect a large portion of incoming solar radiation back into the atmosphere rather than absorbing it. By keeping surface temperatures lower, these materials help reduce the overall urban heat island effect and lower the energy needed for building cooling. This strategy is a cost-effective and critical component of comprehensive heat action plans.

101. (C) Extreme Heat – Implementing cool roofs and increasing urban canopy cover
Addressing urban climate vulnerabilities requires matching specific risks with appropriate planning responses. For extreme heat, strategies like increasing the urban tree canopy provide natural shade and cooling through evapotranspiration. Similarly, cool roofs reduce the heat absorbed by buildings. These interventions are far more effective than traditional approaches and help create a more resilient urban environment. Proper planning ensures that cities can maintain livability even as temperatures continue to rise globally.

102. (A) P-3, Q-1, R-2, S-4
Climate-responsive strategies focus on different functional mechanisms to build urban resilience. Albedo management uses reflective materials to reject solar radiation. Passive cooling involves designing buildings to minimize heat gain without mechanical systems. Flood resilience is achieved through green infrastructure like bioswales and permeable pavements. Drought proofing emphasizes extensive rainwater harvesting and water recycling. These diverse approaches ensure that cities can adapt to a wide range of climatic challenges through integrated planning and design.

103. (C) Statement I is correct but Statement II is incorrect.
Heat action plans, such as the successful model in Ahmedabad, utilize early warning systems and inter-agency coordination to manage extreme heat events. These plans include public health interventions, such as training medical professionals and establishing cooling centers, alongside long-term strategies like urban greening. Far from being limited to tree planting, they represent a holistic approach to protecting vulnerable populations from the health impacts of severe heatwaves through both preventative and emergency measures.

104. (A) I, II, III, IV
Implementing a heat action plan follows a logical sequence to maximize its effectiveness. It begins with establishing temperature thresholds for alerts. Before the summer starts, healthcare professionals are trained to handle heat-related illnesses. During the season, public advisories are triggered based on weather forecasts. Finally, a post-season evaluation of health data is conducted to refine the plan for the following year. This structured approach ensures that the city is well-prepared for extreme heat.

105. (D) It prioritizes maximizing asphalt coverage and minimizing vegetation to ensure the fastest possible flow of motorized traffic.
Climate-responsive street design aims to create comfortable and resilient urban corridors by integrating green infrastructure and permeable materials. Key features include providing shade for pedestrians and managing stormwater runoff locally. Prioritizing asphalt coverage and removing vegetation would be counterproductive, as it would worsen the urban heat island effect and increase flood risks. Instead, modern street design balances the needs of transportation with environmental sustainability and the physical well-being of the city's residents.

106. (D) Mandating that the lowest floor of new constructions be elevated above base flood elevation.
Flood-resilient spatial planning involves regulations that minimize property damage and protect lives during high-water events. Mandating that new buildings have their lowest floors elevated above historical flood levels is a

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highly effective strategy. This approach allows the city to continue growing while ensuring that infrastructure is not situated in high-risk zones. By integrating these requirements into zoning laws, planners can build long-term urban resilience against the increasing frequency and intensity of urban flooding.

107. (D) Installation of centralized, energy-intensive HVAC systems.
Passive cooling design focuses on reducing a building's reliance on mechanical air conditioning by utilizing natural elements. Strategies include optimal building orientation for ventilation, the use of thermal mass to regulate indoor temperatures, and external shading to block solar heat. These techniques lower energy consumption and operational costs while maintaining indoor comfort. Energy-intensive HVAC systems are an active solution and are not part of the passive design framework, which prioritizes architectural and environmental responses over mechanical ones.

108. (B) Diversifying sources, enhancing recharge, minimizing leakage, and mandating water recycling.
Drought proofing in water-stressed cities requires a multi-pronged approach to ensure long-term water security. Strategies include diversifying water sources and enhancing groundwater recharge through rainwater harvesting. Minimizing leakage in the distribution network and mandating the recycling of wastewater for non-potable uses are also critical. These combined efforts reduce the city's vulnerability to prolonged dry spells and ensure that essential water needs can be met even during periods of severe water scarcity.

109. (B) Enhancing urban resilience through improved drainage, water conservation, and afforestation.
The climate action plan for Madhya Pradesh emphasizes building urban resilience through targeted environmental interventions. Key focus areas include improving drainage systems to manage urban floods and promoting water conservation to address scarcity. Afforestation and increasing urban green cover are also prioritized to mitigate heat and improve air quality. These strategies are designed to protect the state's cities from the projected impacts of climate change while supporting sustainable growth and enhancing the well-being of residents.

110. (B) 1, 2, and 4 only
Climate change has significant and direct impacts on urban public health, affecting various vulnerable populations. Increased heatwaves lead to higher mortality rates, especially among the elderly and outdoor workers. Urban flooding can trigger outbreaks of waterborne and vector-borne diseases. Furthermore, poor air quality exacerbated by climate conditions increases the prevalence of respiratory illnesses. Climate-responsive planning is essential for mitigating these risks and protecting the overall health and stability of the urban population through proactive interventions.

111. (C) To identify and evaluate potential hazards, exposures, and vulnerabilities due to climate change.
A climate risk assessment framework is a foundational tool for cities to understand their specific environmental challenges. It involves identifying potential climate hazards, such as floods or heatwaves, and evaluating how they might impact local infrastructure and communities. This assessment helps municipal authorities prioritize investments and develop effective adaptation strategies. By understanding their vulnerabilities, cities can take targeted actions to protect their assets and ensure the long-term safety and resilience of their residents.

112. (A) Both A and R are true and R is the correct explanation of A.
The urban heat island effect can be accurately analyzed using the local climate zones classification because it focuses on the root causes of temperature variation. This system categorizes areas based on their physical structure, including building density and surface materials, which directly influence how much heat is trapped. By mapping these zones, planners can identify high-risk areas and implement targeted cooling strategies. This scientific approach is essential for creating more thermally comfortable and resilient urban environments.

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adjacent high-altitude mountain ranges.
(C) Encroachment of catchment areas and natural drainage channels connected to major lakes.
(D) Severe ground subsidence caused by unregulated mining activities beneath the city center.

41. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): The Low Impact Development (LID) approach significantly mitigates the risk of urban flash floods.
Reason (R): LID techniques promote the infiltration, filtration, and storage of stormwater close to its source, mimicking natural hydrological processes.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

42. Which of the following statements correctly differentiates between detention basins and retention basins used in stormwater management?
(A) Detention basins are dry areas for temporary runoff storage, while retention basins maintain permanent water.
(B) Detention basins are used for wastewater treatment, while retention basins exclusively store clean rainwater.
(C) Retention basins are built entirely underground, whereas detention basins are always surface-level structures.
(D) Retention basins facilitate rapid groundwater extraction, while detention basins prevent all infiltration.

43. Match the urban flood management interventions in List I with their corresponding strategic categories in List II.
List I: Flood Management Intervention
P. Construction of embankments
Q. Implementation of flood insurance
R. Desilting of stormwater channels
S. Flood plain zoning regulations
List II: Strategic Category
1. Non-structural mitigation
2. Structural mitigation
3. Financial risk transfer
4. Maintenance and operations
(A) P-2, Q-3, R-4, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-1, R-4, S-3
(D) P-4, Q-3, R-2, S-1

44. All of the following are primary objectives of delineating and regulating flood plain zones in an urban master plan, EXCEPT:
(A) To prevent inappropriate development in high-risk floodways
(B) To maximize municipal property tax revenue from vulnerable riverbank settlements
(C) To ensure the uninterrupted flow of river water during peak discharge
(D) To minimize loss of life and property damage during severe inundation events

45. A town planner is tasked with preparing a storm water master plan for a rapidly expanding city. Applying standard planning protocols, which data layer is absolutely critical for the initial hydrological modeling of the city?
(A) High-resolution Digital Elevation Model (DEM) and contour maps
(B) Ward-wise demographic data of the elderly population
(C) Location of seismic fault lines traversing the city
(D) Historical records of industrial chemical spills

46. When applying Geographic Information Systems (GIS) for flood vulnerability mapping of an urban area, a planner identifies areas with both high topographic depression and high population density. This specific overlay directly helps to pinpoint:
(A) High-risk seismic zones requiring specialized construction
(B) Significant institutional capacity and governance gaps
(C) High-risk areas requiring immediate emergency evacuation planning
(D) Optimal locations for large-scale wind energy farms

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strategies, which are the responsibility of central governments and are outside the scope of city-level environmental planning.

120. (B) To create resilient, low-carbon urban environments safeguarding health, assets, and stability.
The comprehensive goal of climate-responsive urban planning is to build cities that can withstand environmental shocks while minimizing their contribution to global warming. By integrating mitigation and adaptation strategies, planners protect public health and critical infrastructure. This approach ensures long-term economic and social stability, creating sustainable human settlements that are prepared for the challenges of a changing global climate.

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networks.

Which of the above are classified as non-structural mitigation measures?

(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

28. Under the disaster response framework in Madhya Pradesh, what is the primary mandate of the State Disaster Response Force (SDRF)?

(A) To approve master plans and building by-laws for various urban local bodies
(B) To serve as specialized first responders during natural and man-made disasters
(C) To act as a specialized armed force strictly for large-scale riot control operations
(D) To manage the distribution of financial compensation and relief to disaster victims

29. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.

Assertion (A): Land use planning is considered one of the most effective non-structural mitigation tools for disaster risk reduction.

Reason (R): It allows authorities to physically relocate hazardous events away from densely populated urban centers.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

30. Which of the following statements concerning the National Building Code (NBC) 2016 is INCORRECT?

(A) It contains detailed guidelines on fire and life safety provisions for various building occupancies.
(B) It provides statutory standards for disaster-resistant construction that preempt and overwrite all local municipal by-laws automatically.
(C) It integrates principles of structural design to withstand seismic forces based on Indian Standard codes.
(D) It outlines the requirements for emergency exit routes and refuge areas in high-rise buildings.

31. Match the Bureau of Indian Standards (BIS) codes in List I with their primary domain of disaster-resistant construction in List II.

List I: BIS Code

P. IS 1893
Q. IS 4326
R. IS 13920
S. IS 13828

List II: Structural Domain

1. Ductile detailing of reinforced concrete structures subjected to seismic forces
2. Criteria for earthquake-resistant design of structures
3. Improving earthquake resistance of low-strength masonry buildings
4. Earthquake-resistant design and construction of buildings

(A) P-2, Q-4, R-1, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-1, R-4, S-3
(D) P-4, Q-3, R-1, S-2

32. All of the following agencies are directly involved in providing early warning system alerts for specific natural hazards in India, EXCEPT:

(A) India Meteorological Department (IMD)
(B) Central Water Commission (CWC)
(C) Housing and Urban Development Corporation (HUDCO)
(D) Indian National Centre for Ocean Information Services (INCOIS)

33. Arrange the following steps of an Urban Risk Profiling methodology in their logical chronological sequence:

1. Identification and mapping of hazards in the urban area.
2. Formulation of risk reduction strategies and action plans.
3. Assessment of population, assets, and infrastructure exposed to hazards.
4. Evaluation of existing physical and socio-economic vulnerabilities.

Which of the following represents the correct sequence?

(A) 1, 3, 4, 2
(B) 1, 4, 3, 2
(C) 3, 1, 4, 2

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List I: Disaster Type
P. Geophysical
Q. Hydrological
R. Climatological
S. Meteorological
List II: Specific Example
1. Extreme temperature / Drought
2. Flash flood / Mudslide
3. Earthquake / Dry landslide
4. Cyclone / Storm surge
(A) P-3, Q-2, R-1, S-4
(B) P-2, Q-3, R-4, S-1
(C) P-3, Q-1, R-2, S-4
(D) P-1, Q-4, R-3, S-2

8. All of the following are primary triggering factors for landslides in hilly urban regions, EXCEPT:
(A) Intense or prolonged seasonal precipitation events
(B) Natural or anthropogenic seismic activity
(C) Implementation of Sustainable Urban Drainage Systems
(D) Unplanned excavation and toe-cutting of natural slopes

9. Arrange the following fundamental phases of a standard Disaster Management Cycle in their logical chronological order of implementation:
1. Recovery and Rehabilitation
2. Mitigation
3. Preparedness
4. Emergency Response
Which of the following represents the correct sequence?
(A) 2, 3, 4, 1
(B) 3, 2, 4, 1
(C) 4, 1, 3, 2
(D) 2, 4, 3, 1

10. A town planner is zoning a newly incorporated riverfront area. To minimize disaster risk while maximizing land utility, which of the following applications of flood plain zoning is most appropriate?
(A) Allocating the core floodway for recreation and the flood fringe for regulated commercial use
(B) Permitting high-density residential development provided no basement levels are constructed
(C) Restricting development to low-density eco-tourism modules in the high-hazard floodway
(D) Allowing critical infrastructure like hospitals provided they incorporate rapid evacuation routes

11. Which of the following pairs concerning drought classification is INCORRECTLY matched?
(A) Meteorological drought — Substantial deficit in rainfall over a specific regional period
(B) Socio-economic drought — Localized soil moisture deficiency that solely affects the growth of invasive plant species
(C) Hydrological drought — Depletion of surface and sub-surface water resources and reservoirs
(D) Agricultural drought — Soil moisture deficiency impacting crop yield and biomass production

12. Which of the following represents the most appropriate justification for categorizing epidemics and pandemics as urban disasters within city planning?
(A) They primarily cause extensive structural damage to critical healthcare infrastructure systems.
(B) High population density and intense mobility networks in cities exacerbate rapid transmission.
(C) They are triggered by factors such as proximity to geological fault lines.
(D) Urban areas have a higher percentage of green spaces that act as breeding grounds for pathogens.

13. What does the acronym CBRN stand for in the context of man-made disasters?
(A) Chemical, Biological, Radiological, and Nuclear
(B) Combustible, Biological, Reactive, and Noxious
(C) Chemical, Bacterial, Radioactive, and Natural
(D) Corrosive, Biological, Reactive, and Nuclear

14. Consider the following statements regarding Rapid Visual Screening (RVS):
Statement I: RVS is a technique used to

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quickly assess the seismic vulnerability of a large inventory of buildings without detailed structural calculations.
Statement II: RVS evaluations provide exact retrofitting design specifications for individual structures.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

15. Consider the following statements concerning vulnerability dimensions in disaster risk assessment:
1. Physical vulnerability relates to the susceptibility of the built environment and infrastructure.
2. Social vulnerability focuses on demographics such as age, gender, and socio-economic status.
3. Economic vulnerability assesses the potential loss of livelihoods and business interruptions.
4. Institutional vulnerability evaluates the capacity of governance structures and enforcement mechanisms.

Which of the above statements is/are correct?
(A) 1 and 2 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

16. In the context of urban flood management in Madhya Pradesh, the restoration and flood risk mitigation of the Kahn River is primarily associated with which major city?
(A) Bhopal
(B) Jabalpur
(C) Indore
(D) Gwalior

17. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): The "pancake collapse" of a multi-story building is highly fatal and complicates search and rescue operations.
Reason (R): In a pancake collapse, the structural columns fail, causing the floors to stack flat upon one another, leaving very few survivable void spaces.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

18. Which of the following statements accurately reflects a target of the Sendai Framework for Disaster Risk Reduction (2015-2030)?
(A) It aims to eliminate all economic losses from natural disasters by 2030.
(B) It mandates the relocation of all coastal settlements to areas above sea level.
(C) It focuses exclusively on man-made and industrial hazards in urban centers.
(D) It sets a target to substantially reduce global disaster mortality by 2030.

19. Match the types of building structural failures in List I with their primary descriptions in List II.
List I: Structural Failure Type
P. Pancake collapse
Q. V-shape collapse
R. Lean-to collapse
S. A-frame collapse
List II: Description
1. One outer wall fails, causing the floor assembly to tilt and rest on the intact opposite wall.
2. The center of the floor fails, creating a void on both sides against the outer walls.
3. Sequential failure of floors causing them to stack flat upon one another.
4. The interior load-bearing walls fail, causing the roof to collapse inward forming angled voids.
(A) P-3, Q-2, R-1, S-4
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-4, S-1

20. Which of the following is NOT typically a component evaluated in a Social Vulnerability Index (SVI) for an urban area?
(A) Percentage of population below the poverty line
(B) Age distribution (elderly and children)
(C) Proximity of residential zones to geological

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fault lines
(D) Proportion of households lacking vehicle access

21. A highly toxic chemical leak occurs in an industrial estate situated on the periphery of a rapidly expanding city. Applying lessons from the Bhopal Gas Tragedy, which immediate non-structural planning intervention should the local authority prioritize for future master plan revisions?
(A) Establishing strict buffer zones and restricting residential encroachment near hazardous facilities
(B) Constructing higher reinforced boundary walls around the perimeter of the industrial estate
(C) Subsidizing comprehensive medical insurance for the potentially affected urban population
(D) Mandating all hazardous industrial manufacturing processes to relocate to underground facilities

22. When conducting a Probabilistic Risk Assessment for flood hazards using Geographic Information Systems (GIS), a planner overlays Digital Elevation Models (DEM), historical rainfall data, and land-use maps. The primary output of this application is:
(A) A socio-economic vulnerability index for the local population
(B) A deterministic timeline for potential future hazard exposure
(C) A detailed analysis of institutional capacity and governance gaps
(D) A flood hazard zonation map with defined recurrence intervals

23. Which of the following pairs regarding risk assessment parameters is correctly matched?
(A) Exposure — The inherent susceptibility of a building to collapse during an earthquake
(B) Capacity — The presence of an active, well-trained Community Emergency Response Team
(C) Hazard — A high-density population living along a coastal plain
(D) Vulnerability — The probability of a Category 4 cyclone striking a specific coastline

24. Which of the following is the most appropriate reason for implementing Community-Based Vulnerability Assessments (CBVA) in town planning?
(A) They eliminate the necessity for scientific spatial mapping using advanced GIS technology.
(B) They are mandated by the National Building Code (NBC) for the issuance of all building permits.
(C) They empower local residents to identify localized risks and capacities that external experts might overlook.
(D) They shift the entire financial burden of disaster mitigation and response to the local citizens.

25. In India, the formulation of the National Disaster Risk Index is primarily undertaken by which of the following apex bodies?
(A) Ministry of Earth Sciences (MoES)
(B) Geological Survey of India (GSI)
(C) Town and Country Planning Organization (TCPO)
(D) National Disaster Management Authority (NDMA)

26. Consider the following statements regarding disaster preparedness and mitigation:
Statement I: Mitigation refers to long-term measures aimed at reducing or eliminating the impacts of hazards.
Statement II: Preparedness involves activities such as stockpiling resources and conducting mock drills to ensure effective response during a disaster.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

27. Consider the following interventions in urban disaster planning:
1. Enforcing land use zoning regulations to restrict building in flood plains.
2. Constructing concrete retaining walls to prevent landslides.
3. Conducting community awareness programs on earthquake safety.
4. Establishing early warning dissemination

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113. (C) Urban Flooding – Implementation of Sustainable Urban Drainage Systems (SUDS) and bioswales.
Matching climate hazards with appropriate infrastructure interventions is key to building resilient cities. For urban flooding, sustainable drainage systems and bioswales are effective as they slow down and absorb stormwater naturally. These nature-based solutions reduce the pressure on traditional pipe-based systems and help prevent flooding in downstream areas. By integrating these features into urban design, planners can manage water more effectively and create green spaces that enhance the overall quality of the city.

114. (A) P-2, Q-4, R-3, S-1
Local climate zones classify urban landscapes based on their physical and thermal characteristics. Compact high-rise zones consist of tall, dense buildings with minimal vegetation, while compact low-rise areas have dense, shorter structures and narrow streets. Open low-rise zones feature more space between buildings and abundant pervious cover. Wooded landscapes are classified under zones with dense tree cover. Understanding these classifications is vital for planners to model urban heat and develop effective strategies for localized temperature management.

115. (C) Statement I is correct but Statement II is incorrect.
A city climate action plan is a strategic document that addresses both mitigation and adaptation to ensure holistic urban resilience. These plans outline ways to reduce greenhouse gas emissions while preparing infrastructure for climate-related risks. While they are essential for sustainable planning, they do not supersede national or state laws. Instead, they operate within the existing legal and administrative framework to guide municipal policy and resource allocation toward more sustainable and climate-resilient outcomes for the city.

116. (A) Installing green roofs, utilizing permeable paving, and planting native shade trees along walkways.
Integrating multiple climate-responsive strategies is the most effective way to address urban heat and flood risks simultaneously. Green roofs provide insulation and reduce stormwater runoff, while permeable paving allows water to infiltrate the ground. Planting native shade trees cools the environment and enhances pedestrian comfort. This integrated approach creates a more resilient neighborhood that can manage both extreme heat and heavy rainfall, significantly improving the overall quality of life and safety for the local community.

117. (C) Increasing urban albedo significantly increases energy required for mechanical space cooling.
Albedo management is a highly effective strategy for cooling urban areas by increasing the solar reflectivity of roofs and streets. Surfaces with high albedo, such as white roofs, absorb much less heat than traditional dark materials. Consequently, increasing urban albedo actually reduces the energy needed for mechanical space cooling by keeping buildings naturally cooler. This strategy helps mitigate the urban heat island effect and lowers both the carbon footprint and operational costs of the city.

118. (A) Mandating external shading, optimal window ratios, and cavity walls for thermal insulation.
Building bye-laws can significantly reduce energy consumption by mandating passive cooling techniques. Requirements for external shading and optimal window-to-wall ratios prevent excessive solar heat gain. Additionally, cavity walls and thermal insulation help maintain stable indoor temperatures without relying on heavy air conditioning. These structural interventions ensure that buildings are naturally more comfortable and energy-efficient, supporting the city's overall sustainability goals and reducing the long-term energy demand of the urban built environment.

119. (D) Detailed national defense and military deployment strategies.
City climate action plans focus on local strategies to manage environmental risks and reduce greenhouse gas emissions. Core components include a detailed inventory of local emissions, assessments of climate vulnerabilities, and sector-specific strategies for energy, transport, and waste. These plans are designed to guide municipal policy and improve urban resilience. They do not include national defense or military

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(D) 4, 1, 3, 2

34. A municipal corporation is assessing its critical infrastructure. Which of the following applications best represents the concept of "retrofitting" in this context?
(A) Demolishing a historical building to construct a new earthquake-resistant city hospital
(B) Expanding a city's storm water drainage network into new peripheral urban settlements
(C) Passing a zoning ordinance that restricts the maximum height of new commercial buildings
(D) Strengthening existing infrastructure foundations to meet updated seismic safety standards

35. Which of the following pairs distinguishing between mitigation and preparedness is INCORRECTLY matched?
(A) Mitigation — Evacuating coastal populations 48 hours before a cyclone landfall
(B) Mitigation — Constructing a detention basin to manage storm water
(C) Preparedness — Stockpiling medical supplies in regional hospitals
(D) Preparedness — Training local volunteers in search and rescue operations

36. Which of the following is the most appropriate reason for mandating regular mock drills in urban schools?
(A) To evaluate the structural integrity of the school building under intense dynamic loads
(B) To provide local authorities with a legal safeguard against civil liability during disasters
(C) To ensure students and staff internalize emergency evacuation routes and safety protocols
(D) To train students and teachers in advanced medical triage and emergency surgical techniques

37. Which of the following best defines the distinction between a riverine flood and a flash flood?
(A) Flash floods have a rapid onset within hours of rainfall, whereas riverine floods build up over days.
(B) Riverine floods occur only in coastal areas, whereas flash floods are limited to mountainous regions.
(C) Riverine floods are caused by dam failures, whereas flash floods result from groundwater rising.
(D) Flash floods exclusively carry heavy debris, whereas riverine floods contain only clear river water.

38. Consider the following statements regarding the causes of urban flooding:
Statement I: Increased impervious surface area in cities leads to a higher volume and faster peak discharge of storm water runoff.
Statement II: The implementation of Sustainable Urban Drainage Systems (SUDS) exacerbates the urban heat island effect, causing localized heavy rainfall.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

39. Consider the following factors associated with urban infrastructure:
1. Encroachment of natural drainage channels for real estate development.
2. Inadequate capacity of the existing storm water drainage network.
3. High percentage of green roofs and permeable pavements.
4. Indiscriminate solid waste disposal choking urban drains.

Which of the above factors act as primary causes of urban flooding in Indian cities?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

40. Bhopal's topography heavily influences its flood vulnerability. Which of the following factors is a major contributor to urban flooding risks in specific catchments of Bhopal?
(A) The city is situated entirely below mean sea level, facing regular tidal surges.
(B) Continuous and rapid glacial melting in

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CHAPTER 14

Disaster Risk Reduction and Resilience

1. Which of the following formulas correctly represents the conceptual relationship used in disaster risk assessment?
(A) Disaster Risk = (Hazard × Vulnerability) / Exposure
(B) Disaster Risk = (Hazard × Exposure × Vulnerability) / Capacity
(C) Disaster Risk = (Hazard + Exposure) × Vulnerability
(D) Disaster Risk = (Vulnerability × Capacity) / Hazard

2. Consider the following statements regarding disasters:
Statement I: Biological disasters such as epidemics are strictly classified under climatological disasters.
Statement II: CBRN (Chemical, Biological, Radiological, and Nuclear) events are categorized as man-made disasters.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

3. Consider the following statements regarding the seismic zones of India:
1. The Bureau of Indian Standards (BIS) groups the country into four seismic zones.
2. Zone V is seismically the most active region.
3. Zone II is classified as having a high risk of severe intensity earthquakes.
4. The categorization of seismic zones is utilized in the National Building Code (NBC) for structural design.

Which of the above statements is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

4. In the context of Madhya Pradesh's seismic vulnerability, which of the following districts is primarily located in Seismic Zone III, indicating a moderate damage risk zone that requires specific structural mitigation in town planning?
(A) Gwalior
(B) Ujjain
(C) Jabalpur
(D) Indore

5. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): The Bhopal Gas Tragedy of 1984 underscored the critical necessity for integrating hazardous industry zoning with urban master plans.
Reason (R): Improper land use planning permitted dense residential settlements to develop in the immediate vicinity of the hazardous chemical facility.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

6. Which of the following statements regarding natural disasters is INCORRECT?
(A) Geophysical disasters include earthquakes, tsunamis, and volcanic eruptions.
(B) Hydrological disasters primarily consist of floods, landslides, and wave action.
(C) Biological disasters involve exposure to pathogenic microorganisms and toxins.
(D) Climatological disasters are short-lived weather events such as tornadoes and flash floods.

7. Match the types of disasters in List I with their specific examples in List II.

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47. Which of the following pairs regarding national flood management initiatives is correctly matched?
(A) National Flood Risk Mitigation Project (NFRMP) — Exclusively provides compensation to farmers for crop loss
(B) NDMA Guidelines on Urban Flooding — Recommends complete concretization of urban drainage networks
(C) Flood Plain Zoning — A central act mandating identical river buffers for every city in India regardless of topography
(D) SUDS — Sustainable Urban Drainage Systems focused on source control of stormwater

48. Which of the following is the most appropriate evacuation strategy for an urban settlement severely threatened by an approaching severe cyclonic storm with a high projected storm surge?
(A) Advising citizens to move to the basements of their houses
(B) Relocating the population to open coastal beaches for safety
(C) Vertical evacuation to multi-purpose cyclone shelters and robust high-rise structures
(D) Sheltering in place within temporary tin-roofed community halls

49. The principle of "Build Back Better" (BBB) in post-disaster recovery, which advocates for reducing future risk during reconstruction, was formally adopted as a key priority in which of the following global frameworks?
(A) Kyoto Protocol
(B) Sendai Framework for Disaster Risk Reduction
(C) Hyogo Framework for Action
(D) Paris Agreement

50. Consider the following statements regarding infrastructure resilience:
Statement I: Cascading failures occur when the disruption of one critical infrastructure system leads to the failure of other interconnected systems.
Statement II: The interdependency between power supply and water treatment plants is a common pathway for cascading failures in urban areas.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

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51. Consider the following components relevant to resilience:
1. The capacity to absorb stress and maintain basic functioning.
2. The capacity to adapt to changing risk scenarios.
3. The capacity to transform structures and behaviors in response to severe shocks.
4. The capacity to predict exact dates of future natural disasters.

Which of the above are fundamental elements in the definition of urban infrastructure resilience?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

52. In the context of Madhya Pradesh, which of the following lifeline infrastructures would be considered most critical to protect against cascading failures following a major earthquake in Jabalpur (Seismic Zone III)?
(A) The municipal solid waste landfill site
(B) Suburban recreational parks
(C) The primary electricity sub-stations and associated grid networks
(D) Heritage tourism monuments

53. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): Incorporating redundancy into infrastructure design enhances urban resilience.
Reason (R): Redundancy ensures that alternative systems or pathways are available to provide critical services if the primary system fails during a disaster.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

(B) 1, 2, 3, 4
(C) 2, 3, 1, 4
(D) 1, 3, 2, 4

82. An urban planner is designing an evacuation route strategy for a coastal city prone to storm surges. Applying safety concepts, the evacuation routes should strictly avoid which of the following?
(A) Being elevated above the 100-year flood level
(B) Incorporating clear bilingual signage indicating safe directions
(C) Connecting directly to major regional highway systems
(D) Traversing through high-risk depressions and narrow choke points

83. Which of the following pairs related to building structural failures is INCORRECTLY matched?
(A) Lean-to collapse — The roof fails evenly on all sides forming a flat debris pile
(B) Pancake collapse — Floor assemblies collapse intact, stacking on top of one another
(C) V-shape collapse — The center of the floor fails, creating voids on both outer sides
(D) A-frame collapse — Interior load-bearing walls fail, leaving outer walls intact and causing the roof to form angled voids

84. What is the most appropriate planning approach to prevent flash floods in high-density, heavily concretized urban commercial districts?
(A) Banning the use of all motorized vehicles in the district
(B) Constructing earthen embankments around individual commercial complexes
(C) Replacing pavements with permeable surfaces and localized detention basins
(D) Mandating all buildings to construct deep basements to capture water

85. In resilient infrastructure planning, "infrastructure interdependencies" refers to:
(A) Linkages where functionality of one system relies on the services of another
(B) The exclusive reliance of a city on central government emergency funds
(C) The process of decoupling all urban services to operate entirely off-grid
(D) The administrative hierarchy between state and municipal engineering departments

86. Consider the following statements regarding the financing of resilient infrastructure:
Statement I: Catastrophe (CAT) bonds are financial instruments used to transfer disaster risks from governments or insurers to capital markets.
Statement II: Traditional municipal budgets are always inherently sufficient to absorb the costs of post-disaster total infrastructure replacement.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

87. Consider the following statements regarding the recognized Priorities for Action under the Sendai Framework:
1. Understanding disaster risk.
2. Strengthening disaster risk governance to manage disaster risk.
3. Investing in disaster reduction for resilience.
4. Enhancing disaster preparedness for effective response and to "Build Back Better".

Which of the above statements is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, 3, and 4

88. In Madhya Pradesh, the apex body responsible for laying down policies and approving the State Disaster Management Plan is the:
(A) Urban Development and Housing Department (UDHD)
(B) Home Department of MP
(C) MP State Disaster Management Authority (MP SDMA) chaired by the Chief Minister
(D) Directorate of Town and Country Planning (TCP)

89. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): Probabilistic Risk Assessment is more complex but more comprehensive than

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compensation required for recovery
(B) To identify systemic weaknesses and prioritize risk reduction investments
(C) To determine the current market value of various municipal real estate assets
(D) To shift the responsibility of infrastructure maintenance to private contractors

61. In the context of cyclonic disasters, how is a "storm surge" formally defined?
(A) The rise in sea level caused by cyclonic winds and low atmospheric pressure
(B) The heavy localized rainfall occurring at the eye of the approaching cyclone
(C) The inland flooding caused by overflowing rivers following heavy precipitation
(D) The high-velocity rotary wind patterns capable of uprooting coastal vegetation

62. Consider the following statements regarding forest fires:
Statement I: Crown fires advance rapidly across the tops of trees and are significantly more destructive and harder to control than surface fires.
Statement II: In India, a vast majority of forest fires are strictly caused by natural factors such as lightning strikes, rather than human activities.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

63. Consider the following conditions in a hilly urban environment:
1. Extensive deforestation and loss of vegetative cover.
2. Obstruction of natural drainage paths leading to waterlogging on slopes.
3. Strict enforcement of low Floor Area Ratio (FAR) regulations.
4. Heavy dynamic loading from vehicular traffic on unscientifically cut hill roads.

Which of the above act as primary triggering factors for urban landslides?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

64. Which state-level agency in Madhya Pradesh is heavily involved in providing structural blueprints and implementing disaster-resilient housing schemes under government initiatives?
(A) MP State Tourism Development Corporation (MPSTDC)
(B) MP Pollution Control Board (MPPCB)
(C) MP Housing and Infrastructure Development Board (MPHIDB)
(D) MP Road Development Corporation (MPRDC)

65. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): Part 4 of the National Building Code (NBC) 2016 specifically addresses "Fire and Life Safety" and mandates adequate means of egress for occupants.
Reason (R): Rapid and safe evacuation is critical in minimizing mortality during an urban building fire.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

66. In the disaster risk equation (Risk = Hazard × Vulnerability / Capacity), which of the following statements is correct?
(A) Increasing the hazard frequency directly decreases the overall disaster risk level
(B) Enhancing community coping capacity mathematically increases the overall disaster risk
(C) Risk remains constant regardless of changes in vulnerability or coping capacity levels
(D) Disaster risk can be eliminated if vulnerability is reduced to zero, assuming hazard exists

67. Match the nodal agencies in List I with the specific natural hazard they monitor for early warning in List II.
List I: Nodal Agency
P. India Meteorological Department (IMD)
Q. Central Water Commission (CWC)
R. Geological Survey of India (GSI)

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54. Which of the following statements regarding "climate proofing" of infrastructure investments is INCORRECT?
(A) It involves modifying project designs to ensure long-term viability under future climate change scenarios.
(B) It aims to minimize the vulnerability of physical assets to extreme weather events.
(C) It often requires updating existing engineering codes and standards to account for changing environmental baselines.
(D) It guarantees absolute immunity from all future natural disasters.

55. Match the following lifeline infrastructure categories in List I with their typical examples in List II.
List I: Lifeline Infrastructure Category
P. Energy Infrastructure
Q. Transportation Infrastructure
R. Water and Sanitation
S. Telecommunications
List II: Typical Example
1. Bridges, highways, and mass transit corridors
2. Cellular towers and fiber-optic networks
3. Substations and transmission grids
4. Sewage treatment plants and reservoirs
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-4, R-1, S-2

56. The "100 Resilient Cities" initiative (pioneered by the Rockefeller Foundation) aimed to help cities around the world become more resilient to physical, social, and economic challenges. Which of the following was NOT a core component of assistance provided to member cities?
(A) Funding the establishment of a Chief Resilience Officer (CRO) position
(B) Providing access to a platform of resilience-building tools and services
(C) Fully financing the construction of major structural mitigation projects like sea walls
(D) Assisting in the development of a comprehensive City Resilience Strategy

57. Arrange the following phases of post-disaster infrastructure recovery planning in their chronological order:
1. Long-term reconstruction and transformation using "Build Back Better" principles.
2. Rapid damage and needs assessment (PDNA).
3. Temporary restoration of essential lifeline services (water, power).
4. Detailed structural audit of partially damaged infrastructure.
Which of the following represents the correct sequence?
(A) 2, 3, 4, 1
(B) 2, 4, 3, 1
(C) 3, 2, 4, 1
(D) 4, 2, 3, 1

58. A planner is applying the concept of "robustness" to a city's power grid planning. Which of the following actions best demonstrates this concept?
(A) Designing transmission towers to withstand high cyclonic wind speeds
(B) Creating alternative backup supply routes from neighboring state grids
(C) Implementing smart metering systems in all urban residential households
(D) Privatizing the maintenance of the entire power distribution network

59. Which of the following pairs linking vulnerability dimensions to their examples is INCORRECTLY matched?
(A) Physical vulnerability — Poorly constructed unreinforced masonry buildings
(B) Exposure — The process of restoring infrastructure to pre-disaster standards
(C) Economic vulnerability — A city heavily reliant on a single agricultural crop susceptible to drought
(D) Institutional vulnerability — Lack of enforcement of building codes by the municipal corporation

60. Which of the following is the most appropriate primary purpose of using municipal infrastructure resilience assessment tools in town planning?
(A) To calculate the exact financial

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1. Slowing down the velocity of surface runoff.
2. Promoting localized infiltration into groundwater aquifers.
3. Accelerating runoff discharge through fully concrete-lined channels.
4. Utilizing vegetative solutions like bioswales to treat runoff quality.

Which of the above are fundamental principles of Sustainable Urban Drainage Systems (SUDS)?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

76. In Bhopal, the urban flooding events in areas adjacent to the Upper Lake are primarily exacerbated by which of the following anthropogenic factors?
(A) Construction of deep underground metro tunnels causing ground subsidence
(B) Encroachment of full-tank levels and building in natural catchment zones
(C) Excessive release of water from the Narmada river linking project system
(D) Deliberate lowering of the city's major lake spillway crest height

77. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): A city's Storm Water Master Plan must be fully integrated into its Comprehensive Development Plan (Master Plan).
Reason (R): Independent execution of road networks and land use changes without considering stormwater master plans often disrupts natural drainage basins, causing localized urban flooding.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

78. Which of the following statements regarding disaster mitigation measures is INCORRECT?
(A) Flood protection embankments and retaining walls are examples of structural mitigation.
(B) Land use zoning regulations that prohibit building on fault lines are non-structural mitigation measures.
(C) Flood insurance is a structural measure that physically prevents water ingress.
(D) Public awareness campaigns and early warning systems fall under non-structural mitigation.

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79. Match the dimensions of vulnerability in List I with their assessment indicators in List II.
List I: Vulnerability Dimension
P. Physical Vulnerability
Q. Social Vulnerability
R. Economic Vulnerability
S. Institutional Vulnerability
List II: Assessment Indicator
1. Proportion of population with disabilities
2. Density of unreinforced masonry buildings
3. Existence and enforcement of building by-laws
4. Percentage of population reliant on daily wage labor
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-4, S-2

80. In exposure analysis for urban risk profiling, elements at risk typically encompass all of the following, EXCEPT:
(A) High-density residential populations
(B) Critical lifeline infrastructures
(C) Geological strength of tectonic plates
(D) Commercial and industrial economic assets

81. Arrange the sequential steps of performing a Rapid Visual Screening (RVS) for building vulnerability in an urban area:
1. Conducting a sidewalk survey using a standard data collection form.
2. Identifying the seismic zone of the region to select the appropriate RVS methodology.
3. Calculating the final vulnerability score of the building.
4. Recommending detailed structural evaluation if the score falls below a safety threshold.

Which of the following represents the correct sequence?
(A) 2, 1, 3, 4

infestation exacerbated by dry weather

110. Consider the following statements regarding institutional vulnerability:
Statement I: Institutional vulnerability is high when local governments lack the regulatory frameworks, trained personnel, and financial resources to enforce building codes.
Statement II: Corruption and lack of political will in urban planning do not impact institutional vulnerability.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

111. Consider the following elements which must be included in a comprehensive Emergency Response Plan at the city level:
1. Identification of designated safe shelters and evacuation routes.
2. Clear delineation of roles and responsibilities for municipal departments (e.g., Police, Fire, Health).
3. Protocols for establishing a unified Incident Command System (ICS).
4. Inventory of available emergency equipment and relief supplies.

Which of the above statements is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, 3, and 4

112. In the context of disaster management and urban planning in Madhya Pradesh, the massive temporary infrastructure planning, crowd management, and flood risk mitigation along the Kshipra river is a hallmark of which major recurring event?
(A) Gwalior Trade Fair
(B) Tansen Samaroh
(C) Simhastha Kumbh Mela in Ujjain
(D) Khajuraho Dance Festival

113. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): Disaster preparedness in schools is considered a high-priority intervention in urban disaster risk reduction.
Reason (R): Children are highly vulnerable during disasters, and school communities serve as effective hubs for disseminating safety awareness to the broader society.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

114. Which of the following statements correctly outlines the structural framework of the National Disaster Risk Index (NDRI) developed by NDMA?
(A) It relies exclusively on the frequency of earthquakes, ignoring all other hazards.
(B) It measures only the economic GDP loss of cities, without considering human factors.
(C) It is a confidential document accessible only to authorized national armed forces.
(D) It aggregates hazard exposure, vulnerabilities, and response capacity of States/UTs.

115. Match the Low Impact Development (LID) techniques in List I with their primary function in List II.
List I: LID Technique
P. Permeable pavements
Q. Green roofs
R. Rain gardens
S. Bioswales
List II: Primary Function
1. Vegetated rooftop systems that absorb rainwater and reduce urban heat.
2. Shallow, vegetated depressions designed to capture and infiltrate runoff from impervious surfaces.
3. Paving materials that allow water to infiltrate directly into the underlying soil.
4. Landscaped drainage channels designed to convey stormwater while removing pollutants and allowing infiltration.
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-1, R-3, S-4

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deterministic risk assessment.
Reason (R): Probabilistic assessment considers all possible hazard scenarios and their likelihoods (frequencies) to calculate a range of potential impacts, whereas deterministic assessment focuses on a single specific hazard scenario.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

90. Which of the following statements best describes the "Build Back Better" (BBB) principle?
(A) Reconstructing to increase resilience by integrating disaster risk reduction measures
(B) Restoring damaged infrastructure exactly to its pre-disaster state and specifications
(C) Focusing on psychological counseling while leaving structural repair to private entities
(D) Prioritizing aesthetic monuments over critical lifeline infrastructure post-disaster

91. Match the infrastructure resilience capacities in List I with their appropriate descriptions in List II.
List I: Resilience Capacity
P. Absorptive Capacity
Q. Adaptive Capacity
R. Transformative Capacity
S. Restorative Capacity
List II: Description
1. The ability to make incremental adjustments and changes in response to changing risk profiles.
2. The ability to fundamentally change systemic structures when existing conditions become untenable.
3. The ability of a system to quickly return to normal operational levels after a disruption.
4. The ability of a system to withstand disruptions without suffering functional degradation.
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-1, R-2, S-4

92. All of the following are suitable non-structural strategies for climate-proofing urban infrastructure, EXCEPT:
(A) Updating building codes to account for projected increases in wind speeds
(B) Mandating lower construction material standards to save costs
(C) Revising rainfall Intensity-Duration-Frequency (IDF) curves for storm water design
(D) Restricting development in coastal zones projected to be inundated by sea-level rise

93. A planner is designing a post-disaster recovery plan for a severely earthquake-damaged heritage city. Applying the Build Back Better principle, which approach balances resilience with heritage conservation?
(A) Retrofitting heritage buildings using modern engineering that respects original aesthetics
(B) Demolishing all damaged heritage structures and replacing them with modern concrete towers
(C) Rebuilding the structures using exact traditional techniques and unreinforced masonry systems
(D) Relocating the entire heritage city to a new, seismically stable zone

94. A hill town planner is implementing an early warning system for landslides. Which of the following technological applications is most appropriate for generating accurate, localized early warnings?
(A) Relying exclusively on historical newspaper archives and oral reports
(B) Using satellite imagery with a very coarse 30-day temporal resolution
(C) Installing real-time rainfall gauges and tilt sensors on vulnerable slopes
(D) Broadcasting generalized national weather reports on local radio stations

95. Which of the following pairs regarding hazard mapping is correctly matched?
(A) Microzonation — Broad-scale, low-resolution mapping of entire continents
(B) Seismic hazard map — Displaying the social vulnerability index of wards
(C) Landslide susceptibility map — Showing

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projected economic inflation rates
(D) Flood plain mapping — Delineating areas likely to be inundated

96. Which of the following is the most appropriate primary benefit of building "redundancy" into an urban water supply network?
(A) It reduces the initial capital cost of laying the pipeline network.
(B) It simplifies the hydraulic modeling required by town planners.
(C) It ensures alternative pipelines can supply water if a main line fails.
(D) It eliminates the need for any future maintenance of the infrastructure.

97. Under India's national disaster management framework, which ministry acts as the nodal ministry for managing chemical and industrial disasters?
(A) Ministry of Home Affairs
(B) Ministry of Chemicals and Fertilizers
(C) Ministry of Environment, Forest and Climate Change
(D) Ministry of Defence

98. Consider the following statements regarding industrial hazard planning post-Bhopal Gas Tragedy:
Statement I: The concept of establishing "Buffer Zones" around hazardous industries gained statutory backing to separate residential areas from toxic risks.
Statement II: The Major Accident Hazard (MAH) control rules require off-site emergency plans to be prepared by the district administration.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

99. According to the National Building Code (NBC) provisions for fire hazard prevention, consider the following features critical in high-rise building design:
1. Provision of refuge areas at specified intervals.
2. Installation of automatic sprinkler systems.
3. Compartmentation of floors to restrict the spread of fire and smoke.
4. Designing staircases with pressurized ventilation to maintain a smoke-free escape route.

Which of the above statements is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, 3, and 4

100. In several Smart Cities of Madhya Pradesh (such as Bhopal and Ujjain), which advanced technological facility is being leveraged as the centralized nervous system for multi-agency coordination and emergency response during urban disasters?
(A) State Wide Area Network (SWAN) hubs
(B) Rapid Mass Transit Terminals
(C) Integrated Command and Control Centres (ICCC)
(D) Decentralized Ward Offices

101. The following question consists of two statements: Assertion (A) and Reason (R). Choose the correct answer from the options given below.
Assertion (A): The experience of the COVID-19 pandemic demonstrated the need to integrate epidemiological risk management into spatial urban master planning.
Reason (R): Urban design parameters such as overcrowding, poor ventilation in informal settlements, and lack of decentralized healthcare facilities directly amplified the transmission and mortality rates.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

102. Which of the following statements regarding man-made disasters is INCORRECT?
(A) Chemical disasters can occur due to unsafe handling or storage of toxic substances in industrial plants.
(B) Radiological disasters involve the uncontrolled release of radioactive material, potentially affecting vast urban areas.
(C) Epidemics can be exacerbated in urban settings due to inadequate sanitation and

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overcrowding.
(D) Structural collapse in urban areas is caused only by severe natural earthquakes.

103. Match the disaster event types in List I with their relevant focus area of mitigation/code in List II.
List I: Disaster Event Type
P. Earthquake
Q. Urban Fire
R. Flood
S. Chemical Spill
List II: Focus Area / Code
1. Off-site Emergency Plan (MAH Rules)
2. IS 1893 (Seismic Design)
3. National Building Code Part 4
4. Embankments and Detention Basins
(A) P-2, Q-3, R-4, S-1
(B) P-1, Q-3, R-4, S-2
(C) P-2, Q-4, R-3, S-1
(D) P-3, Q-2, R-1, S-4

104. All of the following are examples of disaster preparedness activities, EXCEPT:
(A) Conducting search and rescue mock drills
(B) Stockpiling essential food and medical supplies
(C) Constructing a large-scale concrete seawall to block storm surges
(D) Drafting standard operating procedures (SOPs) for emergency communication

105. Arrange the functional components of a comprehensive Early Warning System in their proper chronological sequence of operation:
1. Monitoring and detection of the hazard parameter.
2. Dissemination of the warning to vulnerable populations.
3. Analysis of data and generation of risk forecasting.
4. Activation of community emergency response mechanisms.
Which of the following represents the correct sequence?
(A) 1, 3, 2, 4
(B) 1, 2, 3, 4
(C) 3, 1, 2, 4
(D) 1, 3, 4, 2

106. An urban planner is tasked with reducing vulnerability in an informal settlement located on a steep, unstable slope. Applying Community-Based Disaster Risk Management (CBDRM), which initial step is most vital?
(A) Facilitating participatory mapping with residents to identify local hazards and capacities
(B) Deploying armed forces to forcibly evict the residents without any prior notice
(C) Importing expensive foreign early warning technology without community consultation
(D) Imposing hefty municipal fires on the residents for illegal occupancy of slopes

107. Which of the following pairs of disaster terminology is INCORRECTLY matched?
(A) Hazard — A dangerous phenomenon, substance, or human activity that may cause loss of life or damage
(B) Risk — The guaranteed outcome of complete destruction whenever a hazard occurs
(C) Capacity — The combination of all strengths, attributes, and resources available within a community
(D) Vulnerability — The characteristics of a community that make it susceptible to the damaging effects of a hazard

108. Which of the following is the most appropriate reason for prioritizing hospital preparedness and ensuring their structural resilience in urban planning?
(A) Hospitals are the primary generators of municipal property tax revenue.
(B) Hospitals are critical lifeline systems that must manage mass casualties.
(C) Hospital buildings are structurally simpler to design than residential units.
(D) Hospitals are the designated locations for stockpiling construction materials.

109. Which of the following best defines a "hydrological drought"?
(A) A period when low water supply in streams, lakes, and aquifers becomes evident
(B) A prolonged period with less than average precipitation compared to historical norms
(C) A localized phenomenon caused by urban heat islands accelerating water evaporation
(D) A condition where crops fail due to pest

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S. Indian National Centre for Ocean Information Services (INCOIS)

List II: Natural Hazard Monitored

1. Floods (Riverine)
2. Landslides
3. Cyclones and Extreme Weather
4. Tsunamis and Storm Surges

(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-2, S-3

68. First responder training for community volunteers in urban areas typically includes all of the following skills, EXCEPT:
(A) Basic First Aid and CPR
(B) Light search and rescue operations
(C) Complex surgical triage in field hospitals
(D) Fire safety and extinguishing techniques

69. An urban planner is evaluating a case where an accident involves the spillage of a highly radioactive material during transit through a city. What is the most crucial parameter the planner must establish for immediate emergency response in this radiological disaster scenario?
(A) Establishing exclusionary perimeter zones based on wind direction and radiation
(B) Calculating the total economic loss of the involved transit vehicle and cargo
(C) Deploying heavy earth-moving equipment to bury the spilled material immediately
(D) Spraying the affected area with copious amounts of water to dilute the radiation

70. Applying the concept of emergency resource management, which of the following practices constitutes effective "stockpiling" for an urban municipal body?
(A) Hoarding construction materials intended for future smart city projects
(B) Storing all emergency funds in high-interest long-term fixed deposits
(C) Distributing all available emergency kits to citizens prior to the monsoon
(D) Pre-positioning essential relief items in decentralized, accessible warehouses

71. Which of the following pairs regarding the types of drought is correctly matched?
(A) Meteorological drought — Identified by monitoring reservoir levels and groundwater tables
(B) Agricultural drought — Occurs when soil moisture is insufficient to support crop growth
(C) Hydrological drought — Defined strictly by a rainfall deficit of more than 50% from the long-term average
(D) Socio-economic drought — The rapid onset of extremely high temperatures causing forest fires

72. What is the most appropriate role of the National Disaster Response Force (NDRF) in India's disaster management framework?
(A) Drafting the National Disaster Management Plan for the country
(B) Approving state-level budgetary allocations for disaster mitigation
(C) Providing specialized rescue and response during disaster situations
(D) Executing long-term infrastructure rehabilitation projects post-disaster

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73. Which of the following Bureau of Indian Standards (BIS) codes is considered the primary code for the "Criteria for Earthquake Resistant Design of Structures"?
(A) IS 456
(B) IS 800
(C) IS 13920
(D) IS 1893

74. Consider the following statements regarding flood plain mapping and demarcation:
Statement I: Flood plain mapping categorizes the riverbank areas into varying degrees of flood risk based on return periods (e.g., 1-in-25, 1-in-100 year floods).
Statement II: Demarcating flood plains allows urban planners to legally restrict certain land uses and building typologies in high-risk zones.
Which of the above statements is/are correct?
(A) Statement I only
(B) Statement II only
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

75. Consider the following principles associated with urban stormwater management:

116. When conducting a Rapid Visual Screening (RVS) of buildings for seismic vulnerability, which of the following factors is NOT visually evaluated from the exterior?
(A) The fundamental structural system (e.g., unreinforced masonry, reinforced concrete frame)
(B) Vertical irregularities (e.g., soft stories, severe setbacks)
(C) The precise tensile strength of the steel rebar embedded within the concrete columns
(D) The presence of a short column effect or pounding potential between adjacent buildings

117. A city experiences a severe earthquake resulting in a total power blackout. Consequently, the electric pumps at the main water treatment plant fail, leading to an immediate drop in water pressure for firefighting, while telecom cell towers switch to backup generators that run out of fuel in 8 hours. This scenario is a classic application of managing:
(A) Cascading failures due to infrastructure interdependencies
(B) Probabilistic risk assessment
(C) Meteorological drought impacts
(D) Non-structural mitigation success

118. Applying Geographic Information Systems (GIS) to conduct an "exposure analysis" for urban flooding requires calculating the intersection of which two primary spatial layers?
(A) The seismic fault line map and the soil liquefaction potential map
(B) The wind velocity map and the building height regulation map
(C) The traffic density map and the solid waste collection route map
(D) The flood hazard zonation map and the demographic/asset footprint map

119. Which of the following pairs linking resilience concepts to their definitions is correctly matched?
(A) Robustness — The speed at which an infrastructure system recovers its full capacity
(B) Redundancy — The ability to substitute alternative components when a primary system fails
(C) Rapidity — The structural strength of a building to absorb heavy impact without damage
(D) Resourcefulness — The reliance on single, centralized hubs for critical supply chains

120. In the broader context of Town Planning, what is the ultimate, most appropriate goal of integrating Disaster Risk Reduction (DRR) into urban master plans?
(A) To justify the collection of higher building permit fees.
(B) To bypass environmental clearance processes for rapid industrialization.
(C) To ensure urban development reduces vulnerabilities and avoids new risks.
(D) To transfer all risk management responsibilities to individual property owners.

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49. (B) Sendai Framework for Disaster Risk Reduction
The principle of Build Back Better was formally adopted as a key priority in the Sendai Framework for Disaster Risk Reduction. This concept encourages communities to use the recovery and reconstruction phase after a disaster as an opportunity to integrate risk reduction measures. By improving infrastructure and governance during rebuilding, cities can ensure they are more resilient to future hazard events.

50. (C) Both Statement I and Statement II
Urban infrastructure systems are highly interconnected, meaning the failure of one can trigger a chain reaction known as a cascading failure. For example, a power outage can cause water treatment plants to stop functioning, leading to a loss of clean water. Understanding these interdependencies is crucial for planners to build resilience and ensure that critical services remain operational during major disasters.

51. (A) 1, 2, and 3
Urban infrastructure resilience is defined by the capacity to absorb stress, adapt to changing risks, and transform structures when necessary. These three elements allow a system to maintain functionality during a shock and improve over time. While predicting disasters is a goal of emergency management, the inherent resilience of the infrastructure itself focuses on how the system responds and recovers.

52. (C) The primary electricity sub-stations and associated grid networks
Lifeline infrastructure consists of the systems essential for the functioning of a city and its post-disaster recovery. In a city like Jabalpur, protecting the electricity grid is a top priority because power is required for hospitals, water supply, and communication. Ensuring the seismic resilience of sub-stations prevents cascading failures that would otherwise hamper emergency response and delay the restoration of other services.

53. (A) Both A and R are true and R is the correct explanation of A.
Redundancy is a core principle of resilient design, involving the creation of alternative systems to provide critical services. If one part of an infrastructure network fails during a disaster, these backup pathways ensure that service delivery continues. This strategy is particularly important for power, water, and communication networks, where any disruption can have significant impacts on public safety and emergency response.

54. (D) It guarantees absolute immunity from all future natural disasters.
Climate proofing involves designing infrastructure to withstand the projected impacts of climate change, such as more intense storms or rising sea levels. While this process significantly reduces vulnerability and enhances long-term viability, it cannot provide absolute immunity from all future disasters. Effective planning focuses on managing risk and reducing potential damage rather than attempting to eliminate all environmental hazards entirely.

55. (A) P-3, Q-1, R-4, S-2
Lifeline infrastructure categories encompass the vital systems that sustain urban life. Energy infrastructure includes grids and sub-stations, while transportation covers bridges and transit routes. Water and sanitation involve reservoirs and treatment plants, and telecommunications include towers and networks. Protecting these diverse systems is a primary goal of disaster risk reduction to ensure that cities can function and recover after a shock.

56. (C) Fully financing the construction of major structural mitigation projects like sea walls
The 100 Resilient Cities initiative provided strategic support, such as funding Chief Resilience Officers and offering a platform of specialized tools, to help cities develop comprehensive resilience strategies. However, the program did not provide full financing for large-scale structural projects like sea walls. Instead, it focused on helping cities build the institutional capacity and plans needed to attract investment for such major infrastructure.

57. (A) 2, 3, 4, 1
Post-disaster infrastructure recovery begins with a rapid damage and needs assessment to understand the extent of destruction. Once the initial evaluation is complete, authorities prioritize the temporary restoration of essential lifeline services like power and water. A detailed

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Sustainable Urban Drainage Systems acts as a mitigation measure rather than a trigger. These systems reduce landslide risk by managing water runoff and preventing the saturation of unstable slopes, thereby enhancing the overall resilience of infrastructure.

9. (A) 2, 3, 4, 1
The standard disaster management cycle follows a logical sequence aimed at reducing risk and ensuring effective recovery. It begins with mitigation to reduce hazard impacts, followed by preparedness to ensure readiness. When a disaster strikes, emergency response is activated immediately. Finally, recovery and rehabilitation efforts focus on restoring the community and rebuilding infrastructure to better standards for future safety.

10. (A) Allocating the core floodway for recreation and the flood fringe for regulated commercial use
Effective flood plain zoning prioritizes the preservation of the core floodway to ensure unobstructed water flow during peak discharge. By dedicating these high-risk areas to low-impact uses like recreation or green belts, planners minimize potential property damage. Regulated commercial use in the flood fringe allows for economic utility while maintaining strict controls to protect assets from periodic inundation.

11. (B) Socio-economic drought — Localized soil moisture deficiency that solely affects the growth of invasive plant species
Socio-economic drought occurs when the demand for economic goods, such as water and food, exceeds the supply due to weather-related shortfalls. It is not defined by soil moisture impacts on invasive plants, which is closer to the definition of agricultural drought. Understanding these distinctions allows planners to address different levels of water scarcity and their specific societal impacts.

12. (B) High population density and intense mobility networks in cities exacerbate rapid transmission.
Epidemics and pandemics are classified as urban disasters because city environments facilitate the rapid spread of pathogens. High population density leads to frequent person-to-person contact, while extensive public transportation and mobility networks allow infectious agents to circulate quickly. Urban planning must therefore integrate public health considerations, such as improved ventilation and decentralized services, to mitigate these specific risks.

13. (A) Chemical, Biological, Radiological, and Nuclear
The acronym CBRN identifies hazards originating from chemical, biological, radiological, or nuclear sources. These events are classified as man-made or technological disasters and require specialized response protocols and equipment. In urban planning, identifying industries or facilities that handle these materials is essential for establishing buffer zones, developing emergency evacuation routes, and ensuring the safety of the surrounding population.

14. (A) Statement I only
Rapid Visual Screening is a preliminary method for assessing the seismic vulnerability of large building inventories based on external observations. While it effectively identifies structures requiring further attention, it does not provide detailed engineering specifications for retrofitting. Those specific designs require a separate, in-depth structural audit and complex calculations conducted by qualified engineers after the initial screening process is complete.

15. (D) 1, 2, 3, and 4
Disaster risk assessment involves multiple vulnerability dimensions that reflect different aspects of a community. Physical vulnerability concerns the built environment, while social vulnerability addresses demographic factors like age and wealth. Economic vulnerability focuses on livelihood loss, and institutional vulnerability evaluates governance and regulatory capacity. Collectively, these factors determine the overall susceptibility of an urban area to various natural and man-made hazards.

16. (C) Indore
The restoration and flood risk mitigation of the Kahn River is a critical project for the city of Indore. By addressing encroachments and improving the river's carrying capacity, the city aims to reduce urban flooding risks and improve environmental health. This initiative demonstrates how ecological restoration can be

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ANSWERS

1. (B) Disaster Risk = (Hazard × Exposure × Vulnerability) / Capacity
Disaster risk assessment utilizes a fundamental conceptual formula to quantify potential impacts. This equation defines risk as the product of the existing hazard, the exposure of assets and people, and their inherent vulnerability. This product is then divided by the coping capacity of the community or system to determine the final risk level for effective strategic urban planning.

2. (B) Statement II only
Biological disasters include epidemics and pandemics, but they are classified under biological rather than climatological hazards. Events involving Chemical, Biological, Radiological, and Nuclear materials are categorized as man-made or technological disasters because they result from human activities or industrial accidents. Therefore, the second statement accurately reflects standard disaster classification while the first statement incorrectly groups these diverse hazard types.

3. (A) 1, 2, and 4
India is divided into four seismic zones, with Zone V being the most active and Zone II being the least active. Zone II is classified as a low-risk region rather than a high-risk area. These zonation maps are integral to the National Building Code, ensuring that structural designs account for the specific seismic intensity expected in each geographical region.

4. (C) Jabalpur
Jabalpur is categorized within Seismic Zone III, which is defined as a moderate damage risk zone according to national standards. This classification necessitates specific structural mitigation and engineering requirements in town planning to ensure that buildings can withstand potential tremors. Understanding these localized seismic risks helps municipal authorities enforce stricter building by-laws and prioritize safety during rapid urban development.

5. (A) Both A and R are true and R is the correct explanation of A.
The devastating chemical release in Bhopal highlighted the critical need to separate hazardous industrial facilities from residential neighborhoods through spatial planning. When urban master plans fail to incorporate adequate industrial zoning, settlements often encroach upon dangerous sites, maximizing the human impact of accidents. Proper land use planning remains the primary non-structural tool for preventing such large-scale tragedies in cities.

6. (D) Climatological disasters are short-lived weather events such as tornadoes and flash floods.
Climatological disasters are categorized by long-term atmospheric processes and extreme weather patterns such as prolonged droughts and extreme temperature variations. Short-lived atmospheric events, including tornadoes, tropical cyclones, and flash floods, are instead classified as meteorological or hydrological disasters. Differentiating these types is essential for developing appropriate early warning systems and long-term mitigation strategies for various regional climates and topographies.

7. (A) P-3, Q-2, R-1, S-4
Natural disasters are categorized by their primary drivers and physical characteristics. Geophysical events include earthquakes and dry landslides. Hydrological disasters involve water-related hazards like flash floods and mudslides. Climatological hazards are represented by droughts and extreme temperatures, while meteorological disasters include cyclones and storm surges. Correct classification is vital for planners to implement targeted risk reduction and emergency management protocols.

8. (C) Implementation of Sustainable Urban Drainage Systems
Landslides in hilly urban regions are typically triggered by intense rainfall, seismic activity, or unscientific construction practices like toe-cutting. However, the implementation of

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mitigation strategies are culturally appropriate, socially inclusive, and more effective at the grassroots level.

25. (D) National Disaster Management Authority (NDMA)
The National Disaster Management Authority is the apex body in India responsible for developing policies and guidelines for disaster management. It leads the formulation of the National Disaster Risk Index, which helps identify the most vulnerable regions across the country. By aggregating data on hazards, exposure, and capacity, the NDMA provides a comprehensive framework for prioritizing national risk reduction investments.

26. (C) Both Statement I and Statement II
Mitigation and preparedness are distinct yet complementary phases of the disaster management cycle. Mitigation focuses on long-term actions, such as structural reinforcements or land use planning, to reduce the overall impact of hazards. Preparedness involves immediate readiness activities, including stockpiling supplies and conducting drills, to ensure that the community can respond effectively when a disaster occurs. Both are essential for resilience.

27. (B) 1, 3, and 4
Non-structural mitigation measures focus on policies, awareness, and systems rather than physical construction. Enforcing zoning regulations, conducting public awareness programs, and establishing early warning networks are all non-structural interventions. Constructing concrete retaining walls, however, is a structural measure because it involves the physical alteration of the environment to resist hazards. Planners often combine both types for a comprehensive disaster risk reduction strategy.

28. (B) To serve as specialized first responders during natural and man-made disasters
The State Disaster Response Force is a specialized unit trained to provide immediate assistance during disasters. Their primary mandate is to conduct search and rescue operations and provide emergency relief when local resources are overwhelmed. While other departments handle policy and compensation, the SDRF focuses on the operational frontline, ensuring that specialized skills are available to save lives during critical events.

29. (C) A is true but R is false.
Land use planning is an effective non-structural mitigation tool because it guides development away from known hazard zones. While it can prevent people from settling in dangerous areas, it cannot physically relocate natural hazard events, such as earthquakes or cyclones, away from cities. Instead, it reduces the exposure and vulnerability of the built environment by regulating where and how construction occurs.

30. (B) It provides statutory standards for disaster-resistant construction that preempt and overwrite all local municipal by-laws automatically.
The National Building Code of 2016 serves as a comprehensive model for building regulations, but it does not automatically overwrite local municipal by-laws. Instead, local authorities must formally adopt its provisions into their own building regulations to make them legally enforceable. The code provides essential standards for fire safety, structural design, and emergency exits, guiding cities toward safer and more resilient construction practices.

31. (A) P-2, Q-4, R-1, S-3
Bureau of Indian Standards codes provide technical criteria for ensuring structural safety against earthquakes. IS 1893 establishes general design criteria, while IS 4326 focuses on building construction. IS 13920 addresses the ductile detailing required for reinforced concrete, and IS 13828 provides guidelines for low-strength masonry. Together, these standards form the technical backbone of disaster-resistant engineering and safe urban development.

32. (C) Housing and Urban Development Corporation (HUDCO)
Several national agencies are responsible for monitoring hazards and issuing early warnings. The IMD monitors weather and cyclones, the CWC tracks river levels for floods, and INCOIS provides alerts for tsunamis. However, the Housing and Urban Development Corporation is a financial institution focused on housing and infrastructure development, and it does not play a role in the operation of early warning systems.

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integrated with urban planning to enhance the resilience of city infrastructure systems.

17. (A) Both A and R are true and R is the correct explanation of A.
A pancake collapse occurs when structural support members fail, leading to the sequential stacking of floors. This type of failure is extremely dangerous because it eliminates survivable void spaces for occupants and complicates search and rescue operations. Planners and engineers prioritize structural integrity and ductile detailing to prevent such catastrophic failures, ensuring that buildings maintain some habitable space during tremors.

18. (D) It sets a target to substantially reduce global disaster mortality by 2030.
The Sendai Framework for Disaster Risk Reduction is a global agreement that outlines clear targets for 2030. One of its primary goals is to achieve a substantial reduction in global disaster mortality. This framework emphasizes understanding risk, strengthening governance, and investing in resilience. It encourages countries to integrate these priorities into national and local policies to protect lives and infrastructure.

19. (A) P-3, Q-2, R-1, S-4
Building collapses are categorized by the resulting debris patterns and void spaces. A pancake collapse involves floors stacking flat, while a V-shape collapse occurs when the floor center fails. A lean-to collapse happens when one wall fails, and an A-frame collapse is caused by interior wall failure. Identifying these patterns is crucial for search and rescue teams to locate survivors.

20. (C) Proximity of residential zones to geological fault lines
A Social Vulnerability Index focuses on the demographic and socio-economic characteristics that influence a population's ability to prepare for and recover from disasters. Factors like poverty, age distribution, and vehicle access are core components. In contrast, proximity to geological fault lines is a measure of physical hazard and exposure, rather than the social characteristics of the people living in those areas.

21. (A) Establishing strict buffer zones and restricting residential encroachment near hazardous facilities
Lessons from the Bhopal Gas Tragedy emphasize that the proximity of residential areas to hazardous industries significantly increases disaster mortality. Establishing strict buffer zones and preventing residential encroachment are essential non-structural planning interventions. These measures ensure that accidental toxic releases do not immediately affect large populations, allowing for safer evacuation and minimizing the human impact of potential industrial accidents in expanding urban centers.

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22. (D) A flood hazard zonation map with defined recurrence intervals
Probabilistic Risk Assessment using GIS integrates elevation models, rainfall data, and land-use information to model potential flood scenarios. The resulting zonation map identifies areas at risk based on specific recurrence intervals, such as 50-year or 100-year floods. This output is critical for urban planners to make informed decisions regarding land use, infrastructure design, and the development of emergency management plans.

23. (B) Capacity — The presence of an active, well-trained Community Emergency Response Team
Capacity refers to the strengths and resources available within a community to manage and reduce disaster risks. The presence of trained emergency response teams is a direct example of institutional and social capacity. In contrast, exposure relates to assets in hazard zones, vulnerability describes their susceptibility to damage, and hazards are the dangerous physical phenomena themselves, such as cyclones or earthquakes.

24. (C) They empower local residents to identify localized risks and capacities that external experts might overlook.
Community-Based Vulnerability Assessments are essential because local residents possess unique knowledge about their environment and its history of hazards. By involving the community, planners can identify specific risks and localized coping mechanisms that might be missed by high-level scientific mapping. This participatory approach ensures that disaster

41. (A) Both A and R are true and R is the correct explanation of A.
Low Impact Development is an innovative approach that reduces urban flood risk by managing stormwater close to where it falls. By utilizing techniques like rain gardens and permeable surfaces, LID mimics natural hydrological processes, allowing water to infiltrate and filter into the ground. This reduces the volume and speed of runoff, preventing the drainage system from becoming overwhelmed during storms.

42. (A) Detention basins are dry areas for temporary runoff storage, while retention basins maintain permanent water.
Detention and retention basins are structural tools used to manage stormwater runoff. Detention basins are typically dry and designed to hold water temporarily during peak flow to prevent downstream flooding. Retention basins, however, are designed to maintain a permanent pool of water, which also provides ecological and aesthetic benefits. Both systems are essential for controlling the volume and velocity of urban runoff.

43. (A) P-2, Q-3, R-4, S-1
Flood management involves diverse strategies ranging from physical structures to policy-based interventions. Embankments provide structural protection, while flood insurance serves as a mechanism for financial risk transfer. Operational tasks like desilting ensure that drainage systems function correctly. Finally, flood plain zoning is a non-structural mitigation tool that uses land-use regulations to keep development away from the most hazardous riverbank areas.

44. (B) To maximize municipal property tax revenue from vulnerable riverbank settlements
The primary goal of flood plain zoning is to protect lives and property by regulating land use in flood-prone areas. It ensures that the core floodway remains clear for water flow and prevents hazardous development. Maximizing tax revenue from vulnerable areas is not an objective; in fact, zoning often restricts development in these zones to minimize the potential for future disaster-related losses.

45. (A) High-resolution Digital Elevation Model (DEM) and contour maps
Accurate hydrological modeling requires a detailed understanding of the city's topography. Digital Elevation Models and contour maps are critical because they show how water will flow across the landscape and where it will accumulate. Without this foundational data, planners cannot accurately identify flood-prone areas or design effective drainage networks. This information is essential for creating a resilient stormwater master plan.

46. (C) High-risk areas requiring immediate emergency evacuation planning
Overlaying topographic depressions with high population density identifies areas that are both likely to flood and have many people at risk. These locations are the highest priority for emergency management because they may experience rapid inundation with little warning. Planners use this specific GIS analysis to design targeted evacuation routes, locate safe shelters, and prioritize infrastructure improvements to protect the most vulnerable residents.

47. (D) SUDS — Sustainable Urban Drainage Systems focused on source control of stormwater
Sustainable Urban Drainage Systems are a modern approach to flood management that focuses on managing water at its source. By promoting infiltration and attenuation, SUDS reduce the burden on traditional pipe-based drainage systems. Other national initiatives, like flood plain zoning, are also important but vary in their implementation. SUDS represent a shift toward integrating nature-based solutions into urban infrastructure for greater resilience.

48. (C) Vertical evacuation to multi-purpose cyclone shelters and robust high-rise structures
During a severe cyclone with a high storm surge, horizontal evacuation to open areas or low-lying buildings is dangerous. Vertical evacuation involves moving people to the upper floors of reinforced, multi-purpose cyclone shelters or robust high-rise buildings designed to withstand wind and water. This strategy is the most effective way to save lives when high water levels make traditional evacuation routes impassable.

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33. (A) 1, 3, 4, 2
Urban risk profiling begins with identifying and mapping specific hazards within the city limits. Once hazards are mapped, planners identify the specific populations and infrastructure exposed to those risks. This is followed by an evaluation of physical and social vulnerabilities to determine potential impacts. Finally, the gathered data is used to formulate comprehensive risk reduction strategies and action plans to enhance resilience.

34. (D) Strengthening existing infrastructure foundations to meet updated seismic safety standards
Retrofitting involves the structural modification of existing buildings or infrastructure to improve their resistance to hazards like earthquakes. This process is essential for protecting older structures that were not built according to modern safety codes. By strengthening foundations or adding reinforcements, authorities can significantly reduce the risk of collapse and ensure that critical facilities remain operational during and after a disaster.

35. (A) Mitigation — Evacuating coastal populations 48 hours before a cyclone landfall
Mitigation refers to long-term strategies, such as building sea walls or implementing zoning laws, designed to reduce the overall impact of hazards. Evacuating a population shortly before a cyclone makes landfall is a component of emergency preparedness and response, rather than mitigation. This distinction is important for planners when allocating resources between long-term risk reduction and immediate life-saving preparedness activities.

36. (C) To ensure students and staff internalize emergency evacuation routes and safety protocols
Regular mock drills in schools are designed to build muscle memory and ensure that both students and staff know exactly how to react during an emergency. By practicing evacuation routes and safety protocols, the school community can reduce panic and minimize the time required to reach safety. These exercises are a vital part of disaster preparedness, fostering a culture of safety.

37. (A) Flash floods have a rapid onset within hours of rainfall, whereas riverine floods build up over days.
Flash floods are characterized by their extreme speed and sudden onset, often occurring within minutes or hours of intense rainfall. In contrast, riverine floods develop more slowly as water levels in large river systems gradually rise over several days due to sustained precipitation. Understanding these temporal differences is crucial for developing effective early warning systems and evacuation plans tailored to each flood type.

38. (A) Statement I only
Rapid urbanization increases the amount of impervious surfaces, such as roads and buildings, which prevents water from soaking into the ground and leads to higher runoff volumes. However, Sustainable Urban Drainage Systems are designed to mitigate these effects by promoting infiltration and storage. These systems help reduce flood risk rather than exacerbating other environmental issues like the urban heat island effect.

39. (B) 1, 2, and 4
Urban flooding in Indian cities is primarily caused by the encroachment of natural drainage channels, the inadequate capacity of old drainage networks, and the clogging of drains with solid waste. These factors prevent stormwater from flowing efficiently, leading to rapid inundation. Conversely, green roofs and permeable pavements are mitigation measures that help reduce flooding by absorbing water at its source.

40. (C) Encroachment of catchment areas and natural drainage channels connected to major lakes.
Bhopal's flood vulnerability is significantly increased by human activities that interfere with the city's natural hydrology. Building within the catchment areas of major lakes and obstructing the natural drainage paths prevents stormwater from reaching water bodies efficiently. During heavy rainfall, these disruptions cause water to back up and flood residential and commercial zones, highlighting the need for stricter land use enforcement.

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structural audit follows to identify repairable assets. Finally, long-term reconstruction is executed using principles to enhance resilience for future hazard events.

58. (A) Designing transmission towers to withstand high cyclonic wind speeds
Robustness refers to the inherent strength of a system to withstand external shocks without suffering functional failure. Designing power transmission towers to resist extreme wind speeds is a direct application of this concept, as it ensures the physical infrastructure remains intact during a storm. Other strategies, like redundancy or smart systems, are also important but serve different roles in enhancing overall resilience.

59. (B) Exposure — The process of restoring infrastructure to pre-disaster standards
Exposure refers to the physical presence of people, infrastructure, and economic assets in areas prone to specific natural or man-made hazards. It is a spatial measure of what could be lost during a disaster event, rather than the recovery process itself. Correctly identifying exposed elements is a prerequisite for vulnerability assessments and for designing effective risk reduction strategies in urban planning.

60. (B) To identify systemic weaknesses and prioritize risk reduction investments
Infrastructure resilience assessment tools allow planners to evaluate how different systems might fail under stress and where the most critical vulnerabilities lie. By identifying these systemic weaknesses, municipal authorities can prioritize investments in the areas that will provide the greatest increase in overall safety. This proactive approach ensures that limited resources are used effectively to protect the most essential urban services.

61. (A) The rise in sea level caused by cyclonic winds and low atmospheric pressure
A storm surge is a rapid rise in sea level that occurs as a cyclone approaches the coast. It is caused by the combination of powerful winds pushing water toward the shore and the low atmospheric pressure at the center of the storm. These surges can lead to catastrophic coastal flooding and are often the most dangerous part of a tropical cyclone event.

62. (A) Statement I only
Crown fires are particularly dangerous because they spread rapidly through the tops of trees, making them difficult for firefighters to control. In contrast, surface fires burn along the ground and are generally less intense. While lightning can cause forest fires, the vast majority of such events in India are actually triggered by human activities, such as agricultural clearing or accidental ignition by people.

63. (B) 1, 2, and 4
Landslides in hilly urban areas are often triggered by deforestation, the obstruction of natural drainage paths, and the heavy dynamic loading from traffic on unscientifically cut roads. These factors destabilize slopes and increase the likelihood of soil failure during heavy rain. Enforcing low Floor Area Ratio regulations is a mitigation strategy that reduces the density and weight of buildings on fragile hillsides.

64. (C) MP Housing and Infrastructure Development Board (MPHIDB)
The Madhya Pradesh Housing and Infrastructure Development Board plays a key role in implementing state-level housing schemes. This includes developing structural blueprints and ensuring that new government-led residential projects incorporate disaster-resilient features. By promoting safe construction practices and modern engineering standards, the board helps improve the overall resilience of the housing stock against common hazards like earthquakes and floods.

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65. (A) Both A and R are true and R is the correct explanation of A.
Fire and life safety are critical components of urban building design, as outlined in Part 4 of the National Building Code. Mandating adequate means of egress ensures that occupants can evacuate quickly and safely during a fire. Rapid evacuation is the most effective way to minimize mortality, making these structural and operational requirements a top priority for developers and municipal regulators.

66. (D) Disaster risk can be eliminated if vulnerability is reduced to zero, assuming hazard exists
The disaster risk equation demonstrates that risk is a product of hazard, exposure, and vulnerability,

mitigated by capacity. Mathematically, if any of the three risk-increasing factors—vulnerability, exposure, or the hazard itself—is reduced to zero, the resulting disaster risk becomes zero. In practical planning, reducing vulnerability and exposure while enhancing coping capacity are the primary ways to manage and minimize disaster risks.

67. (A) P-3, Q-1, R-2, S-4
India's early warning system relies on specialized nodal agencies for different hazards. The IMD monitors weather and cyclones, the CWC tracks riverine floods, and the GSI focuses on landslide potential. INCOIS is responsible for monitoring oceanic hazards like tsunamis and storm surges. This coordinated approach ensures that accurate warnings are generated and disseminated to local authorities and vulnerable populations in a timely manner.

68. (C) Complex surgical triage in field hospitals
First responder training for community volunteers focuses on essential, life-saving skills that can be performed with minimal equipment. This includes basic first aid, CPR, light search and rescue, and initial fire suppression. Complex medical procedures, such as advanced surgical triage, require specialized professional training and equipment found only in hospitals or advanced medical units, rather than among general community-based volunteer groups.

69. (A) Establishing exclusionary perimeter zones based on wind direction and radiation
In a radiological disaster, the most immediate priority is to prevent exposure to ionizing radiation. Establishing exclusionary perimeters based on radiation levels and wind direction is essential for protecting the public. These zones ensure that people are kept at a safe distance and that emergency responders use appropriate shielding. Other actions, like using water or moving earth, can sometimes worsen the situation by spreading contamination.

70. (D) Pre-positioning essential relief items in decentralized, accessible warehouses
Effective stockpiling involves the strategic storage of emergency supplies in locations that will remain accessible after a disaster strikes. By decentralizing these warehouses across different parts of a city, municipal authorities can ensure that relief items reach affected populations quickly, even if transportation networks are damaged. This preparedness measure is vital for maintaining public health and order during the critical hours following a major event.

71. (B) Agricultural drought — Occurs when soil moisture is insufficient to support crop growth
Agricultural drought is specifically defined by a lack of soil moisture that impacts crop production and biomass. Other types of drought are defined differently: meteorological drought by rainfall deficits and hydrological drought by declining water levels in reservoirs and aquifers. Understanding these distinctions is important for planners to develop targeted response strategies for different sectors of the economy and environment.

72. (C) Providing specialized rescue and response during disaster situations
The National Disaster Response Force is a specialized federal unit trained to handle a wide range of natural and man-made disasters. Their primary role is to provide expert search and rescue services and immediate relief when state resources are overwhelmed. While other bodies handle policy and reconstruction, the NDRF focuses on life-saving operations during the most critical phases of an emergency.

73. (D) IS 1893
IS 1893 is the primary Indian Standard code that provides the criteria for the earthquake-resistant design of structures. It establishes the seismic zones of the country and provides the mathematical formulas needed to calculate seismic forces on buildings. Following this code is mandatory for engineers and architects to ensure that structures are safe and resilient to the tremors expected in their region.

74. (C) Both Statement I and Statement II
Flood plain mapping is a scientific process that identifies areas at risk based on the frequency of flood events. Once these zones are demarcated, planners can use them as a legal basis for land-use regulations. By restricting high-density development in the most frequent flood zones, cities can significantly reduce potential property

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damage and ensure that the natural floodway remains unobstructed.

75. (B) 1, 2, and 4
Sustainable Urban Drainage Systems prioritize nature-based solutions to manage stormwater. Fundamental principles include slowing down runoff velocity, promoting localized infiltration, and using vegetated systems like bioswales to improve water quality. In contrast, traditional engineering that relies on fully concrete-lined channels to accelerate discharge often increases flood risks downstream and prevents natural groundwater recharge, making it the opposite of the SUDS approach.

76. (B) Encroachment of full-tank levels and building in natural catchment zones
In Bhopal, urban flooding is significantly worsened by development that encroaches on the natural boundaries and catchment areas of the city's lakes. These activities disrupt the natural storage and drainage of stormwater, leading to inundation in nearby residential areas during heavy rainfall. Protecting these hydrological features through strict zoning and enforcement is essential for reducing the city's overall flood vulnerability.

77. (A) Both A and R are true and R is the correct explanation of A.
A city's stormwater master plan must be integrated with its comprehensive development plan to ensure that new roads and buildings do not disrupt natural drainage basins. When development occurs without considering hydrology, natural pathways are often blocked, leading to localized flooding. This holistic approach ensures that urbanization does not create new risks and that the city's drainage infrastructure remains effective.

78. (C) Flood insurance is a structural measure that physically prevents water ingress.
Mitigation measures are divided into structural and non-structural categories. Structural measures, like embankments and retaining walls, involve physical construction to resist hazards. Non-structural measures include policies like zoning, awareness campaigns, and financial tools like flood insurance. Insurance is a non-structural risk transfer mechanism because it provides financial recovery after a disaster but does not physically prevent floodwaters from entering a property.

79. (A) P-2, Q-1, R-4, S-3
Vulnerability assessment uses specific indicators for different dimensions. Physical vulnerability is often measured by the density of weak buildings, while social vulnerability considers the percentage of disabled or elderly residents. Economic vulnerability relates to livelihoods, such as the proportion of daily wage laborers. Institutional vulnerability is indicated by the existence and enforcement of building by-laws and the overall strength of governance.

80. (C) Geological strength of tectonic plates
Exposure analysis identifies the people, buildings, and infrastructure that are located in hazard-prone areas and could suffer loss. This includes high-density populations, critical lifelines, and economic assets. The geological strength of tectonic plates, however, is a factor used to assess the earthquake hazard itself, rather than the elements that are exposed to that hazard once it occurs.

81. (A) 2, 1, 3, 4
Rapid Visual Screening follows a structured process to evaluate building safety. It begins by identifying the regional seismic zone to set the correct parameters. Then, a sidewalk survey is conducted to collect data on the building's exterior. This information is used to calculate a vulnerability score. If the score is low, the building is recommended for a more detailed structural evaluation.

82. (D) Traversing through high-risk depressions and narrow choke points
Safe evacuation routes must be carefully planned to ensure they remain passable during an emergency. They should be elevated above flood levels, clearly signed, and connected to major roads. Most importantly, they must avoid high-risk depressions that could flood quickly and narrow choke points that could cause traffic congestion, as these features could trap people in dangerous areas during a crisis.

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different divisions in the state.
2. Roles and responsibilities of various state line departments.
3. Detailed architectural blueprints for all future private residential buildings.
4. Standard Operating Procedures (SOPs) for emergency response.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

20. An industrial chemical leak occurs in the Pithampur industrial area of Madhya Pradesh. Under the established disaster response framework, which specialized unit is primarily equipped and mandated to handle such a CBRN (Chemical, Biological, Radiological, and Nuclear) incident locally before national aid arrives?
(A) The local Traffic Police detachment specializing in urban mobility and road safety management.
(B) The Municipal Solid Waste Management team responsible for daily refuse collection and disposal.
(C) Specially trained units of the State Disaster Response Force (SDRF) and local Fire Services.
(D) The regional office of the Town and Country Planning Department handling zoning and land use.

21. Arrange the stages of the traditional disaster management cycle in their correct chronological sequence:
1. Response
2. Mitigation
3. Preparedness
4. Recovery

(A) 2, 3, 1, 4
(B) 1, 4, 2, 3
(C) 3, 1, 4, 2
(D) 2, 1, 4, 3

22. In the context of Madhya Pradesh's disaster response architecture, personnel from which of the following organizations predominantly constitute the core of the State Disaster Response Force (SDRF)?
(A) Madhya Pradesh State Road Transport Corporation (MPSRTC)
(B) Forest Department Guards
(C) Private Security Agencies
(D) Madhya Pradesh Special Armed Force (SAF) and Home Guards

23. Which of the following statements correctly identifies the role of the District Disaster Management Authority (DDMA) in urban areas?
(A) DDMA takes over the entire municipal taxation and financial revenue system during a disaster.
(B) DDMA ensures that state and national guidelines are integrated into the municipal developmental plans.
(C) DDMA dissolves the elected urban local body for failing to implement a disaster management plan.
(D) DDMA acts as a legal tribunal for settling civil land disputes arising out of urban flood events.

24. Which of the following entities is NOT a statutory body created under specific disaster management legislation?
(A) National Disaster Management Authority (NDMA)
(B) State Disaster Management Authority (SDMA)
(C) State Emergency Operations Centre (SEOC)
(D) District Disaster Management Authority (DDMA)

25. In the context of climate change strategies, what is the defining distinction between "adaptation" and "mitigation"?
(A) Adaptation reduces greenhouse gas emissions, while mitigation deals with the unavoidable impacts of climate change.
(B) Adaptation is solely a national-level strategy, while mitigation is exclusively an urban-level strategy.
(C) Adaptation relies on technological geo-engineering, while mitigation relies purely on large-scale afforestation.
(D) Adaptation involves system adjustments to climatic stimuli, while mitigation involves reducing greenhouse gas emissions.

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Transformative capacity is the ability to fundamentally change systems when current conditions are no longer sustainable. Finally, restorative capacity refers to the speed and effectiveness with which a system can return to normal operations after a disruption occurs.

92. (B) Mandating lower construction material standards to save costs
Climate proofing involves strengthening infrastructure to meet future environmental challenges. This includes updating building codes for higher winds, revising rainfall data for drainage design, and restricting development in coastal zones. Mandating lower material standards to save costs would actually increase vulnerability and is the opposite of a resilient planning strategy, as it would make infrastructure more susceptible to failure during extreme weather.

93. (A) Retrofitting heritage buildings using modern engineering that respects original aesthetics
Balancing heritage conservation with disaster resilience requires a sensitive approach to retrofitting. By using modern engineering techniques that are hidden or complementary to the original design, planners can strengthen historical structures against hazards like earthquakes without destroying their cultural value. This approach follows Build Back Better principles by improving safety while preserving the unique identity and history of the heritage city.

94. (C) Installing real-time rainfall gauges and tilt sensors on vulnerable slopes
Accurately predicting landslides requires localized, real-time data on the factors that trigger them. Installing rainfall gauges and tilt sensors directly on vulnerable slopes allows for precise monitoring of soil saturation and movement. This technology provides the specific information needed to issue timely early warnings to residents, which is far more effective than relying on generalized weather reports or historical archives.

95. (D) Flood plain mapping — Delineating areas likely to be inundated
Hazard mapping is a spatial tool used to visualize the extent and intensity of specific dangerous phenomena. Flood plain mapping identifies areas that are likely to be underwater during different flood scenarios. Other types of maps, like seismic hazard or landslide susceptibility maps, focus on different physical risks. These maps are essential for land-use planning, as they show exactly where hazards are most likely to occur.

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96. (C) It ensures alternative pipelines can supply water if a main line fails.
Redundancy in urban water networks involves creating multiple pathways for water to reach consumers. If a main pipeline is damaged during a disaster, these alternative routes can be used to maintain supply. This resilience strategy is critical for ensuring that residents have access to clean water and that firefighters have adequate pressure to manage emergencies, even when parts of the system are compromised.

97. (B) Ministry of Chemicals and Fertilizers
In India, the Ministry of Chemicals and Fertilizers is the nodal ministry responsible for the management of chemical and industrial disasters. It works alongside other agencies like the NDMA to develop safety guidelines and emergency response protocols. This specialized oversight is necessary because of the complex technical and regulatory requirements involved in handling toxic materials and ensuring the safety of industrial operations.

98. (C) Both Statement I and Statement II
Post-Bhopal industrial planning introduced critical regulations to improve safety. These include the establishment of buffer zones to separate toxic facilities from residential areas and the requirement for off-site emergency plans. These plans are prepared by district administrations to coordinate the response of various agencies in the event of a major accident, ensuring that the surrounding community is protected and informed.

99. (D) 1, 2, 3, and 4
High-rise fire safety requires an integrated system of structural and active features. This includes refuge areas for occupants, automatic sprinklers for suppression, floor compartmentation to contain smoke, and pressurized staircases to ensure clear escape routes. All these features are mandated by the National Building Code

to minimize the risk of fire-related deaths and injuries in densely populated urban residential and commercial buildings.

100. (C) Integrated Command and Control Centres (ICCC)
Smart Cities in Madhya Pradesh use Integrated Command and Control Centres as a central hub for urban management. These facilities integrate data from various sources, including cameras and sensors, to provide real-time situational awareness. During a disaster, the ICCC serves as a coordination center for emergency services, allowing for a faster and more effective response by multiple agencies working together in a unified environment.

101. (A) Both A and R are true and R is the correct explanation of A.
The COVID-19 pandemic highlighted how urban design impacts public health. Overcrowding, poor ventilation, and a lack of local healthcare facilities in many areas contributed to higher infection rates. This experience has shown that spatial planning must integrate epidemiological risks by promoting better air quality, more green space, and decentralized services to make cities more resilient to future health-related disasters and pandemics.

102. (D) Structural collapse in urban areas is caused only by severe natural earthquakes.
Structural collapses in cities can be caused by many factors beyond earthquakes, including poor construction materials, inadequate design, and illegal additions to buildings. Man-made disasters also include chemical releases, radiological events, and epidemics, all of which can be exacerbated by urban density. Differentiating these causes is essential for developing effective building codes and industrial regulations that address both natural and technological risks.

103. (A) P-2, Q-3, R-4, S-1
Disaster management involves applying specific codes and engineering solutions to different hazards. Earthquake safety is addressed by IS 1893, while fire hazards are covered by Part 4 of the National Building Code. Flood risk is managed through structures like embankments, and chemical disasters require detailed off-site emergency plans. Understanding these links helps planners implement the correct standards and strategies for each type of threat.

104. (C) Constructing a large-scale concrete seawall to block storm surges
Preparedness activities focus on readiness and response capabilities, such as conducting drills, stockpiling supplies, and creating standard procedures. Constructing a large-scale seawall is a structural mitigation measure because it is a permanent physical intervention designed to reduce the hazard's impact over the long term. Distinguishing between preparedness and mitigation is important for balancing short-term response readiness with long-term risk reduction investments.

105. (A) 1, 3, 2, 4
A comprehensive early warning system operates in a logical sequence. It begins with the monitoring and detection of a hazard. This data is then analyzed to generate a risk forecast. Once a threat is confirmed, the warning is disseminated to the public. Finally, community emergency response mechanisms are activated to move people to safety and minimize the potential impact of the event.

106. (A) Facilitating participatory mapping with residents to identify local hazards and capacities
Community-Based Disaster Risk Management begins with engaging local residents to understand their specific risks and resources. Participatory mapping allows residents to share their knowledge of past events and identify the most vulnerable areas in their own neighborhood. This collaborative approach ensures that the community takes ownership of disaster planning and that the resulting strategies are practical and tailored to the local context.

107. (B) Risk — The guaranteed outcome of complete destruction whenever a hazard occurs
The term risk describes the potential for loss or damage when a specific hazard interacts with vulnerable elements and insufficient coping capacity. It represents a mathematical probability rather than an absolute certainty or a guaranteed outcome. In disaster management, calculating this probability is essential for prioritizing mitigation investments and developing effective

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emergency response strategies and protocols to protect the population and assets.

108. (B) Hospitals are critical lifeline systems that must manage mass casualties.
Hospitals are one of the most important lifeline systems in an urban area. During and after a disaster, they must remain functional to provide emergency care to survivors and manage mass casualties. Ensuring their structural resilience and preparedness is a top priority for planners, as the failure of a hospital can significantly increase the mortality rate and hinder the entire city's recovery process.

109. (A) A period when low water supply in streams, lakes, and aquifers becomes evident
Hydrological drought is characterized by a significant decline in water availability in surface and sub-surface sources. This includes reduced river flow, low lake levels, and falling groundwater tables. It often occurs after a period of meteorological drought and has serious implications for water supply, power generation, and ecosystem health. Planners must monitor these indicators to manage water resources effectively during prolonged dry periods.

110. (A) Statement I only
Institutional vulnerability describes the inability of government structures to manage disaster risks due to inadequate resources or weak enforcement. High vulnerability occurs when city officials lack the necessary training, financial backing, or regulatory frameworks to implement building codes. Since political will and corruption directly influence these governance factors, they significantly impact the overall safety and resilience of communities against various hazards.

111. (D) 1, 2, 3, and 4
A city-level emergency response plan must be comprehensive and well-coordinated. It includes identifying shelters and evacuation routes, clearly defining the roles of different departments, and establishing a unified command system. It also requires a detailed inventory of available equipment and supplies. By addressing all these components, municipal authorities can ensure a rapid and effective response that saves lives and maintains order.

112. (C) Simhastha Kumbh Mela in Ujjain
The Simhastha Kumbh Mela in Ujjain is a massive recurring event that requires extraordinary infrastructure planning and disaster management. Planners must manage enormous crowds, ensure water safety along the Kshipra river, and mitigate the risk of floods or fire. This event demonstrates the state's capacity to handle complex logistical challenges and provide safety for millions of pilgrims in a high-density, temporary urban environment.

113. (A) Both A and R are true and R is the correct explanation of A.
Disaster preparedness in schools is a high priority because children are among the most vulnerable members of society. By educating students and staff about safety protocols, schools can protect their occupants during an event. Furthermore, students often share what they learn with their families, making schools an effective hub for spreading disaster awareness and building a culture of resilience across the community.

114. (D) It aggregates hazard exposure, vulnerabilities, and response capacity of States/UTs.
The National Disaster Risk Index provides a comprehensive evaluation of risk across India. It aggregates data on hazard exposure, various types of vulnerability, and the existing response capacity of different regions. This multi-dimensional approach allows the government to identify the most at-risk areas and prioritize national resources for risk reduction and preparedness, ensuring that interventions are targeted where they are most needed.

115. (A) P-3, Q-1, R-2, S-4
Low Impact Development uses nature-based techniques to manage urban stormwater. Permeable pavements allow water to infiltrate soil, while green roofs absorb rain and reduce heat. Rain gardens are depressions that capture runoff, and bioswales are landscaped channels that filter and convey water. These methods help restore natural hydrology in cities, reducing flood risk and improving environmental quality by managing water at its source.

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116. (C) The precise tensile strength of the steel rebar embedded within the concrete columns
Rapid Visual Screening is an initial assessment tool used to identify potentially hazardous buildings without expensive testing. Surveyors evaluate visible external features like the building material, soft stories, and pounding risks from adjacent structures. However, internal structural properties such as the specific tensile strength of embedded steel rebar cannot be determined through surface-level observation and require more intensive, detailed engineering audits and laboratory testing.

117. (A) Cascading failures due to infrastructure interdependencies
The scenario describes how the failure of one system, the power grid, leads to the failure of other essential services like water and telecommunications. This is a classic example of a cascading failure caused by the complex interdependencies within modern urban infrastructure. Planners must understand these linkages to build resilience and ensure that critical facilities have backup systems that can operate independently during a crisis.

118. (D) The flood hazard zonation map and the demographic/asset footprint map
Exposure analysis in GIS determines which people and assets are located in dangerous areas. By overlaying a flood hazard zonation map with data on population and infrastructure, planners can see exactly who and what is at risk. This information is essential for prioritizing mitigation projects, designing evacuation routes, and estimating potential economic losses, ensuring that disaster risk reduction efforts are evidence-based and spatially accurate.

119. (B) Redundancy — The ability to substitute alternative components when a primary system fails
Redundancy is a fundamental principle of resilience that involves having backup components or alternative pathways within a system. This ensures that if one part fails, the system can still function. Other concepts include robustness, which is physical strength, and rapidity, which is the speed of recovery. Together, these elements allow urban infrastructure to withstand shocks and maintain essential services for the population.

120. (C) To ensure urban development reduces vulnerabilities and avoids new risks.
The ultimate goal of integrating Disaster Risk Reduction into urban master plans is to create safer, more sustainable cities. By identifying hazards and vulnerabilities early in the planning process, authorities can guide development away from high-risk areas and enforce safe construction standards. This proactive approach ensures that urbanization does not create new risks and that the community is better prepared to face future disasters.

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CHAPTER 15
Disaster Management Framework

1. What is the fundamental legal definition of a "Disaster"?
(A) A naturally occurring event that alters the ecological balance of an area beyond its capacity to recover.
(B) A catastrophe, mishap, or calamity in any area arising from natural or man-made causes, resulting in substantial loss of life, property, or environment.
(C) A hydro-meteorological event that causes financial loss to the state exchequer exceeding a prescribed threshold.
(D) An emergency situation declared solely by the National Disaster Management Authority requiring international intervention.

2. Match the disaster management structures in List I with their primary responsibilities in Madhya Pradesh in List II.
List I: (Disaster management structures)
P. State Disaster Management Authority (SDMA)
Q. State Executive Committee (SEC)
R. State Emergency Operations Centre (SEOC)
S. State Disaster Response Force (SDRF)
List II: (Primary responsibilities)
1. Coordination of daily disaster information and early warnings
2. Specialized response and rescue operations during a crisis
3. Laying down state-specific disaster management policies and plans
4. Implementing the State Plan and assisting the SDMA
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-2, R-3, S-4

3. Who holds the position of the ex-officio Chairperson of the Madhya Pradesh State Disaster Management Authority (MP SDMA)?
(A) The Chief Minister of Madhya Pradesh
(B) The Governor of Madhya Pradesh
(C) The Home Minister of Madhya Pradesh
(D) The Chief Secretary of Madhya Pradesh

4. Identify the INCORRECT pair regarding the constitution of the District Disaster Management Authority (DDMA).
(A) Chairperson - District Magistrate / Collector
(B) Co-Chairperson - President of the Zila Panchayat
(C) Chief Executive Officer - Superintendent of Police
(D) Member - Chief Medical Officer of the District

5. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): The Incident Command System (ICS) is highly effective for managing large-scale urban disasters in Madhya Pradesh.
Reason (R): ICS provides a rigid, unchangeable hierarchy that restricts multi-agency coordination during unforeseen emergencies.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

6. Consider the following statements regarding the role of Urban Local Bodies (ULBs) in disaster management:
Statement I: ULBs are legally mandated to integrate disaster risk reduction measures into their urban development projects and master plans.
Statement II: ULBs are solely responsible for deploying the National Disaster Response Force (NDRF) within city limits during an emergency.

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(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

7. Consider the following statements regarding the Disaster Management Act, 2005:
1. It mandates the creation of Disaster Management Authorities at the National, State, and District levels.
2. It empowers the Central Government to constitute the National Disaster Response Force (NDRF).
3. It stipulates that private corporations must fund all district-level disaster operations.
4. It provides for the creation of a National Disaster Mitigation Fund.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

8. During an unexpected urban flood in Bhopal, standard communication lines fail. Under the Incident Command System (ICS) adopted by the district, who will assume the role of the Incident Commander to lead immediate on-ground response until state forces arrive?
(A) The State Secretary of the Urban Development and Housing Department acting as a nodal coordinator.
(B) The Director General of the NDRF overseeing national rescue operations across the affected zone.
(C) A senior local administrator, such as the Sub-Divisional Magistrate or the designated Tehsildar.
(D) The Mayor of the Bhopal Municipal Corporation acting as the primary elected civic representative.

9. Arrange the following milestones in the evolution of the disaster management framework in chronological order:
1. Enactment of the Disaster Management Act
2. Establishment of the High Powered Committee (HPC) on Disaster Management
3. Constitution of the Madhya Pradesh State Disaster Management Authority
4. Formulation of the National Disaster Management Plan

(A) 2, 1, 3, 4
(B) 1, 2, 4, 3
(C) 2, 3, 1, 4
(D) 3, 1, 2, 4

10. According to the administrative structure operating in Madhya Pradesh, the District Disaster Management Plan (DDMP) prepared by the DDMA must be approved by which of the following authorities?
(A) The State Disaster Management Authority (SDMA)
(B) The Central Government directly
(C) The Gram Sabhas of the respective district
(D) The State Finance Commission

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11. Which of the following statements correctly describes the function of the State Emergency Operations Centre (SEOC) in Madhya Pradesh?
(A) It functions as an appellate authority for citizens seeking financial compensation for disaster-related property losses.
(B) It acts as a dedicated 24x7 nodal point for communication, early warning dissemination, and coordination during a disaster.
(C) It is a specialized military regiment stationed in Bhopal for immediate airlift operations.
(D) It is a legislative body tasked with passing laws related to climate change adaptation.

12. Which of the following is NOT a defined role of the National Disaster Response Force (NDRF)?
(A) Conducting specialized search and rescue operations during severe floods or earthquakes.
(B) Providing long-term structural rehabilitation and reconstruction of damaged urban housing.
(C) Assisting civil authorities in managing Chemical, Biological, Radiological, and Nuclear (CBRN) emergencies.
(D) Imparting community awareness and disaster preparedness training during peace times.

13. What is the Incident Command System (ICS) in the context of disaster management?
(A) A standardized management framework integrating facilities, personnel, and communications for all-hazard incidents.
(B) A central satellite-based communication network designed to link all district headquarters during crises.
(C) A financial auditing and accounting system used to track expenditures from the State Disaster Response Fund.
(D) A legal protocol establishing guidelines for initiating criminal proceedings against negligent officials.

14. Match the respective force or agency in List I with its deployment characteristic in List II.
List I: (Force/Agency)
P. NDRF
Q. SDRF
R. Home Guards
S. Armed Forces
List II: (Deployment characteristic)
1. First line of trained state-level responders frequently mobilized for local search and rescue
2. Called upon as 'aid to civil authorities' only when the disaster scale exceeds state and national civilian response capacities
3. Highly specialized central force deployed for threatening disaster situations and major calamities
4. Auxiliary force serving as the backbone of civil defense and often integrated into the SDRF
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-3, Q-4, R-1, S-2

15. In Madhya Pradesh, which department acts as the nodal administrative department for coordinating disaster management activities at the state level?
(A) The Urban Development and Housing Department
(B) The Home Department
(C) The Public Works Department
(D) The Revenue Department

16. Identify the INCORRECT pair regarding inter-agency coordination mechanisms.
(A) National Crisis Management Committee - Headed by the Cabinet Secretary
(B) State Executive Committee - Headed by the Chief Secretary
(C) National Executive Committee - Headed by the Prime Minister
(D) District Disaster Management Authority - Headed by the District Collector

17. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): The relief and rehabilitation machinery in Madhya Pradesh provides immediate ex-gratia assistance to victims of notified disasters.
Reason (R): The State Disaster Response Fund (SDRF) is meant exclusively for long-term mitigation projects, not for immediate relief.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

18. Consider the following statements regarding the SDRF funding in Madhya Pradesh:
Statement I: The State Disaster Response Fund is constituted under legislative provisions for disaster management.
Statement II: The Central Government contributes 75% to the SDRF allocation for Madhya Pradesh, while the state contributes the remaining 25%.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

19. Consider the following elements typically included in the MP State Disaster Management Plan:
1. Vulnerability and risk assessment of

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83. (A) Lean-to collapse — The roof fails evenly on all sides forming a flat debris pile
A lean-to collapse occurs when only one outer wall fails, causing the floor or roof to tilt and rest on the opposite intact wall, creating a large triangular void. The description of a roof failing evenly on all sides to form a flat debris pile is more characteristic of a general building collapse or a variations of a pancake failure.

84. (C) Replacing pavements with permeable surfaces and localized detention basins
Flash floods in heavily concretized urban districts can be mitigated by increasing the ground's ability to absorb water. Replacing traditional impervious pavements with permeable surfaces and installing localized detention basins allow stormwater to infiltrate or be stored temporarily. This reduces the peak volume of runoff that enters the drainage system, preventing it from being overwhelmed during intense, short-duration rainfall events.

85. (A) Linkages where functionality of one system relies on the services of another
Infrastructure interdependency describes the complex relationships between different urban systems. For example, water pumping stations require electricity, and power plants often require water for cooling. When one system fails during a disaster, these interdependencies can cause other systems to fail as well, leading to widespread disruptions. Planners must understand these linkages to build more resilient and redundant infrastructure networks.

86. (A) Statement I only
Catastrophe bonds are innovative financial tools that allow governments to transfer disaster risks to investors in the capital markets. This provides a source of funding for recovery that does not rely solely on traditional municipal budgets. These budgets are often insufficient to cover the massive costs of replacing infrastructure after a major disaster, making risk-transfer mechanisms an essential part of financial resilience.

87. (D) 1, 2, 3, and 4
The Sendai Framework outlines four clear Priorities for Action that guide global efforts in disaster risk reduction. These include understanding risk, strengthening governance, investing in resilience, and enhancing preparedness to Build Back Better. By addressing all four areas, countries and cities can develop a comprehensive and effective approach to managing hazards and protecting their populations and infrastructure from future shocks.

88. (C) MP State Disaster Management Authority (MP SDMA) chaired by the Chief Minister
In Madhya Pradesh, the State Disaster Management Authority is the primary body responsible for setting disaster management policy and approving the state plan. Chaired by the Chief Minister, it ensures that there is high-level political leadership and coordination across different government departments. This institutional framework is essential for integrating disaster risk reduction into state-wide development and ensuring a coordinated response.

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89. (A) Both A and R are true and R is the correct explanation of A.
Probabilistic Risk Assessment is a comprehensive approach that accounts for a wide range of potential hazard scenarios and their frequencies. This allows planners to understand the full spectrum of possible impacts and their likelihood. In contrast, deterministic assessment focuses on a single, specific "worst-case" scenario. While more complex, the probabilistic method provides a more robust basis for making long-term planning and investment decisions.

90. (A) Reconstructing to increase resilience by integrating disaster risk reduction measures
The Build Back Better principle advocates for using the post-disaster recovery phase to improve a community's resilience. Instead of simply restoring infrastructure to its original state, this approach integrates modern safety standards and risk reduction measures. This ensures that the rebuilt community is stronger and better prepared to withstand future disasters, breaking the cycle of repeated damage and reconstruction.

91. (A) P-4, Q-1, R-2, S-3
Infrastructure resilience involves four key capacities. Absorptive capacity is the ability to withstand shocks. Adaptive capacity allows for incremental changes as risks evolve.

26. Match the National Action Plan on Climate Change (NAPCC) Missions in List I with their primary objectives in List II.
List I: (NAPCC Missions)
P. National Solar Mission
Q. National Water Mission
R. National Mission for Sustaining the Himalayan Ecosystem
S. National Mission for Sustainable Habitat
List II: (Primary objectives)
1. Conservation of biodiversity, forest cover, and glaciers in mountainous regions
2. Promoting energy efficiency in buildings and management of solid waste
3. Increasing the share of solar energy in the total energy mix
4. Improving water use efficiency by 20% through regulatory mechanisms
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

27. Which organization acts as the nodal agency for coordinating and drafting the Madhya Pradesh State Action Plan on Climate Change (MP SAPCC)?
(A) Madhya Pradesh Urban Development Company (MPUDC)
(B) Environmental Planning and Coordination Organisation (EPCO)
(C) Madhya Pradesh Pollution Control Board (MPPCB)
(D) Town and Country Planning Department, MP

28. Identify the INCORRECT pair matching an NAPCC mission to its nodal Union Ministry.
(A) National Solar Mission - Ministry of New and Renewable Energy
(B) National Water Mission - Ministry of Agriculture and Farmers Welfare
(C) National Mission for Enhanced Energy Efficiency - Ministry of Power
(D) National Mission for Sustainable Habitat - Ministry of Housing and Urban Affairs

29. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): Urban Heat Island (UHI) adaptation measures are becoming increasingly necessary in rapidly growing cities of Madhya Pradesh like Indore and Bhopal.
Reason (R): Rapid urbanization replaces natural landscapes with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

30. Consider the following statements regarding Ecosystem-based Adaptation (EbA):
Statement I: EbA uses biodiversity and ecosystem services as part of an overall adaptation strategy to help people adapt to the adverse effects of climate change.
Statement II: Constructing massive concrete sea walls is the primary example of an Ecosystem-based Adaptation strategy.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

31. Consider the following areas of focus for the National Mission for Sustainable Habitat (NMSH):
1. Promotion of energy efficiency in the residential and commercial sectors.
2. Management of municipal solid waste.
3. Promotion of urban public transport.
4. Expansion of deep-sea mining capabilities.
Which of the above statement(s) is/are correct?
(A) 1, 3, and 4 only
(B) 2, 3, and 4 only
(C) 1, 2, and 4 only
(D) 1, 2, and 3 only

32. The Indore Municipal Corporation mandates the installation of Rainwater Harvesting (RWH) systems for plots exceeding a certain area. This

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59. Which of the following statements correctly defines "Catastrophe Financing"?
(A) The immediate withdrawal of all domestic investments from a disaster-struck country to prevent financial loss.
(B) Pre-arranged financial mechanisms, such as catastrophe bonds, used to quickly release funds after a disaster.
(C) A traditional banking loan system that takes several decades to process for individual disaster victims.
(D) A state-level deficit financing strategy involving the printing of excess currency notes post-disaster.

60. Which of the following is NOT one of the 12 drivers of the City Resilience Index?
(A) Minimal human vulnerability
(B) Unlimited territorial expansion
(C) Effective provision of critical services
(D) Empowered stakeholders

61. What is the primary function of "Resilience Bonds" in urban disaster management?
(A) A mechanism linking insurance premiums to resilience projects, providing rebates for pre-disaster risk reduction.
(B) A penalty system where cities are fined for failing to meet their annual carbon emission targets.
(C) A municipal tax levied directly on citizens to cover the costs of post-disaster debris removal.
(D) A non-repayable grant provided exclusively for the restoration of historical and cultural monuments.

62. Match the City Resilience Index (CRI) Driver in List I with its corresponding example indicator in List II.
List I: (CRI Driver)
P. Diverse and affordable livelihoods
Q. Reduced physical exposure
R. Reliable mobility and communications
S. Integrated development planning
List II: (Example indicator)
1. Proportion of citizens living outside hazard-prone zones
2. Existence of multi-modal public transport networks that function during crises
3. Comprehensive master plans that incorporate climate risk assessments
4. Availability of skills training and varied employment sectors in the city
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-1, R-4, S-2

63. Which organization partnered with the Rockefeller Foundation to develop the globally recognized City Resilience Framework (CRF) and City Resilience Index (CRI)?
(A) World Health Organization (WHO)
(B) World Bank
(C) Asian Development Bank (ADB)
(D) ARUP

64. Identify the INCORRECT pair regarding the urban resilience planning process.
(A) Risk Assessment - Identifying hazards and evaluating community vulnerabilities
(B) Strategy Formulation - Developing actionable projects to mitigate identified risks
(C) Excluding marginal communities - Stakeholder Engagement
(D) Monitoring and Evaluation - Tracking the effectiveness of implemented resilience interventions

65. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): Implementing stringent disaster risk reduction guidelines in urban development regulations often faces resistance from local real estate developers.
Reason (R): Incorporating resilience measures, such as seismic dampening or elevated plinths, initially increases construction costs.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

66. Consider the following statements regarding Disaster Risk Reduction (DRR) vs. Disaster Management:

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39. Which financial institution serves as the National Implementing Entity (NIE) in India for accessing the global Adaptation Fund to finance climate adaptation projects?
(A) Reserve Bank of India (RBI)
(B) National Bank for Agriculture and Rural Development (NABARD)
(C) State Bank of India (SBI)
(D) Housing and Urban Development Corporation (HUDCO)

40. Identify the INCORRECT pair regarding water security and climate adaptation techniques.
(A) Rainwater Harvesting - Capturing and storing rainwater for reuse
(B) Wastewater Recycling - Treating domestic sewage for non-potable uses like landscaping
(C) Groundwater Recharge - Deforestation to expose topsoil and increase rapid surface runoff
(D) Desalination - Removing salt from seawater to produce fresh water

41. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): Planned relocation is increasingly considered a viable climate change adaptation strategy for highly vulnerable populations.
Reason (R): Planned relocation is identical to forced eviction, as it prioritizes infrastructure development over community safety.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

42. Consider the following statements regarding agriculture adaptation in urban fringe (peri-urban) areas:
Statement I: Urban fringe agriculture adaptation requires shifting from highly vulnerable monocultures to diversified cropping systems like horticulture and dairy.
Statement II: Protecting agricultural lands in the urban fringe can help buffer cities against floods by maintaining permeable surfaces.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

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43. Consider the following components of an effective climate-health surveillance system:
1. Real-time meteorological data integration
2. Tracking vector populations and breeding sites
3. Monitoring hospital admission rates during extreme weather events
4. Privatizing all primary health care centers
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1, 2, and 3 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

44. Following severe summer mortalities, the city administration of Gwalior implements a Heat Action Plan (HAP). Which of the following is an early-warning health adaptation action under this plan?
(A) Subsidizing air conditioners exclusively for commercial malls to protect retail sector interests.
(B) Issuing color-coded heat warnings based on India Meteorological Department forecasts.
(C) Mandating the closure of all public hospitals during peak heat hours to conserve state electricity.
(D) Banning the use of municipal water for drinking purposes to prevent the spread of waterborne diseases.

45. Arrange the following urban climate resilience and adaptation frameworks in chronological order of their inception/adoption:
1. Kyoto Protocol
2. Sendai Framework for Disaster Risk Reduction
3. Agenda 21 (Earth Summit)
4. UNDRR Making Cities Resilient 2030 (MCR2030)
(A) 3, 1, 2, 4
(B) 1, 3, 2, 4
(C) 3, 2, 1, 4

command.
(B) The process of completely outsourcing all disaster relief operations to international NGOs.
(C) The elimination of local governance structures during a declared state of emergency.
(D) The coordination between public, private, and civil society actors to manage and reduce disaster risks.

74. Match the administrative Guidelines in List I with their corresponding primary mitigation focus in List II.
List I: (Guidelines Topic)
P. Management of Earthquakes
Q. Management of Urban Flooding
R. Management of Cyclones
S. Management of Heat Wave
List II: (Primary mitigation focus)
1. Retrofitting of lifeline buildings and strict enforcement of IS Codes in construction
2. Maintenance of drainage networks, solid waste management, and protection of natural water bodies
3. Early warning systems, coastal shelterbelt plantations, and resilient coastal infrastructure
4. Promoting cool roofs, optimizing working hours, and inter-agency coordination for health response
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-3, R-2, S-4
(D) P-4, Q-3, R-2, S-1

75. What represents the primary paradigm shift when comparing the Hyogo Framework for Action (2005-2015) to the Sendai Framework (2015-2030)?
(A) A shift from managing disaster risk proactively to managing disaster losses and damages post-event.
(B) A shift from focusing on disaster response and relief to a comprehensive focus on managing and reducing risk.
(C) A shift from international cooperation to strictly localized and isolated disaster response protocols.
(D) A shift from public sector funding to entirely private sector funding for all disaster relief operations.

76. Identify the INCORRECT pair regarding the use of building regulations as a disaster governance tool.
(A) Setbacks and Open Spaces - Reduces the risk of fire spreading between adjacent structures
(B) Heritage conservation bylaws - Mandates the demolition of all pre-1950 structures in earthquake zones
(C) Floor Area Ratio (FAR) controls - Limits the population density in highly vulnerable zones
(D) Plinth height regulations - Mitigates the impact of localized urban flooding

77. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): Land use regulations are a critical tool for hazard zone exclusion, effectively preventing new developments in high-risk areas like active floodplains.
Reason (R): Structural engineering solutions (like building dams) guarantee 100% protection against all future flood events, making land use regulations obsolete.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

78. Consider the following statements regarding the National Disaster Management Plan (NDMP) 2019:
Statement I: The NDMP 2019 is closely aligned with the Sendai Framework, the Paris Agreement, and the Sustainable Development Goals (SDGs).
Statement II: The plan provides a framework that outlines the roles and responsibilities of various ministries at different stages of the disaster management cycle.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.

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physical exposure and vulnerability

53. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): Mainstreaming Disaster Risk Reduction (DRR) in city budgets ensures that funds are structurally allocated for risk mitigation rather than relying solely on post-disaster relief.
Reason (R): Urban local bodies often find it more cost-effective in the long run to invest in resilient infrastructure than to repeatedly rebuild after disasters.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

54. Consider the following statements regarding the Post-Disaster Needs Assessment (PDNA) framework:
Statement I: PDNA is an internationally accepted methodology to assess damage, loss, and recovery needs after a disaster.
Statement II: A core principle of the PDNA is integrating the "Build Back Better" strategy into the recovery and reconstruction phase.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

55. Consider the following objectives of the UNDRR "Making Cities Resilient 2030" (MCR2030) campaign:
1. Ensuring cities have a clear understanding of their disaster risks.
2. Promoting the integration of DRR and climate change adaptation into local strategic planning.
3. Facilitating peer-to-peer learning among cities globally.
4. Mandating that all participating cities adopt a singular, universal master plan model.

Which of the above statement(s) is/are correct?
(A) 2, 3, and 4 only
(B) 1, 2, and 3 only
(C) 1, 3, and 4 only
(D) 1, 2, and 4 only

56. In updating the Jabalpur Master Plan, planners notice increasing instances of localized urban flooding. To integrate resilience, which of the following measures should be prioritized in the master plan's land use allocation?
(A) Converting existing floodplains of the Narmada and its tributaries into high-density commercial zones
(B) Increasing the maximum allowable Floor Area Ratio (FAR) exclusively in low-lying areas
(C) Zoning natural drainage channels as "No Construction Zones" and integrating them into a green infrastructure network
(D) Banning all future infrastructure development within the city limits

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57. Arrange the typical phases of a Post-Disaster Needs Assessment (PDNA) in chronological order:
1. Preparation and mobilization of assessment teams
2. Data collection on damage and loss in affected areas
3. Consolidation and analysis of sector reports
4. Formulation of a Recovery Framework and Needs estimation

(A) 1, 2, 3, 4
(B) 2, 1, 4, 3
(C) 1, 3, 2, 4
(D) 2, 3, 1, 4

58. Under the provisions of the Madhya Pradesh Municipal Corporation Act, 1956, which municipal authority or committee typically acts as the focal point for initiating urban disaster response and integrating resilience at the civic level?
(A) The Mayor-in-Council (MIC)
(B) The State Legislative Assembly
(C) The Board of Secondary Education
(D) The State Election Commission

nations.

(D) Encouraging sub-national authorities, including cities, to scale up their efforts and support actions to reduce emissions and build resilience.

85. What defines a "Risk Transfer Mechanism" in the context of disaster risk governance?

(A) Formal or informal mechanisms that shift the financial consequences of risks to another party, such as via insurance.

(B) Shifting the responsibility of risk management from the government entirely to the individual resident.

(C) Moving hazardous industries physically from one district to another to minimize local population exposure.

(D) Evacuating vulnerable populations temporarily to safe shelters before a major cyclone strikes the coast.

86. Match the international framework in List I with its primary focus area regarding global governance in List II.

List I: (International Framework)

P. Sendai Framework

Q. Paris Agreement

R. Sustainable Development Goals (SDGs)

S. New Urban Agenda (Habitat III)

List II: (Primary focus area)

1. Global response to the threat of climate change and temperature control
2. Disaster risk reduction and resilience building
3. Comprehensive global goals including ending poverty, ensuring equality, and sustainable cities (Goal 11)
4. Setting a global standard for sustainable urban development and housing

(A) P-2, Q-1, R-3, S-4

(B) P-1, Q-2, R-4, S-3

(C) P-2, Q-3, R-1, S-4

(D) P-3, Q-1, R-2, S-4

87. What was the target implementation period of the Hyogo Framework for Disaster Risk Reduction?

(A) 1990-2000

(B) 2005-2015

(C) 2010-2020

(D) 2015-2025

88. Identify the INCORRECT pair regarding policy mechanisms and their outcomes in disaster risk governance.

(A) Zoning Ordinances - Restricting development in fault zones or floodplains

(B) Building Codes - Establishing minimum structural safety standards

(C) Post-Disaster Needs Assessment (PDNA) - Pre-disaster community awareness campaign tool

(D) Catastrophe Bonds - Transferring risk to capital market investors

89. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.

Assertion (A): The strict enforcement of building codes in earthquake-prone zones of Madhya Pradesh, like Jabalpur, is a critical disaster risk governance tool.

Reason (R): Non-engineered and non-compliant buildings are the primary cause of fatalities during seismic events.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

90. Consider the following statements regarding the role of the private sector in DRR governance:

Statement I: The Sendai Framework explicitly recognizes the private sector as a critical stakeholder in disaster risk reduction.

Statement II: Private real estate developers have no legal obligation to comply with hazard safety standards unless specifically requested by the buyer.

(A) Both Statement I and Statement II are correct.

(B) Both Statement I and Statement II are incorrect.

(C) Statement I is correct and Statement II is incorrect.

(D) Statement I is incorrect and Statement II is correct.

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Statement I: Disaster Risk Reduction is a proactive approach focused on preventing new and reducing existing disaster risk.
Statement II: Disaster Management is primarily concerned with the reactive phases of response, relief, and recovery during and immediately after a disaster.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

67. Consider the following elements generally integrated into comprehensive resilience assessment tools for cities:
1. Baseline demographic data and socio-economic vulnerabilities.
2. Historical data on hazards (e.g., past flood levels, seismic history).
3. The structural integrity of critical infrastructure systems (hospitals, power grids).
4. The profitability margins of foreign multinational corporations operating in the city.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, and 4 only

68. The Ujjain Smart City administration is exploring financial mechanisms to upgrade its stormwater drainage system to withstand 100-year flood events. Which innovative financial instrument should the city planner recommend that monetizes the reduction in potential future damage?
(A) Micro-finance loans for individual households
(B) Sovereign Gold Bonds
(C) Resilience Bonds
(D) Agricultural subsidies

69. In an urban flood scenario, a city planner applies the Post-Disaster Needs Assessment (PDNA) framework. According to PDNA methodology, the destruction of municipal bus terminals is recorded as _____, while the drop in ticket revenue due to disrupted transport services is recorded as _____.
(A) a damage ; a loss
(B) a loss ; a damage
(C) a need ; a capacity
(D) a vulnerability ; an exposure

70. In the context of Madhya Pradesh, which set of rules primarily empowers local planning authorities to regulate building heights, setbacks, and impose restrictions in designated flood-prone zones?
(A) Madhya Pradesh Land Revenue Code, 1959
(B) Madhya Pradesh Panchayati Raj Avam Gram Swaraj Adhiniyam, 1993
(C) Madhya Pradesh Shops and Establishments Act, 1958
(D) Madhya Pradesh Bhumi Vikas Niyam, 2012 (and its amendments)

71. Which statement correctly identifies the role of the United Nations Office for Disaster Risk Reduction (UNDRR) in the MCR2030 campaign?
(A) It functions as a global police force penalizing mayors of cities that experience disasters.
(B) It acts as a global facilitator providing a clear roadmap, tools, and partnerships to help cities build resilience by 2030.
(C) It provides direct cash transfers to all citizens affected by climate change in developing nations.
(D) It drafts local master plans for cities worldwide bypassing local governments.

72. According to the City Resilience Framework, resilient systems exhibit several core characteristics. Which of the following is NOT a characteristic of a resilient city?
(A) Redundancy
(B) Flexibility
(C) Rigidity
(D) Inclusiveness

73. How is "Disaster Risk Governance" most accurately defined?
(A) The exclusive control of disaster response mechanisms by the central military

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(D) 1, 2, 3, 4

46. Under the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh, integrating which of the following components at the city level directly addresses both water security and urban climate adaptation?
(A) Construction of elevated flyovers and arterial roads to reduce traffic congestion and vehicle emissions.
(B) Establishing massive centralized solid waste incinerators to manage the city's total daily refuse output.
(C) Development of decentralized wastewater plants and groundwater recharge pits in public buildings.
(D) Expanding the coverage of broadband internet services to improve digital connectivity for all residents.

47. Which of the following statements correctly describes a mechanism of the Green Climate Fund (GCF)?
(A) It is an entity that exclusively funds the total cessation of industrial activities in developed nations.
(B) It is a restrictive mechanism that prevents private sector participation in climate finance initiatives.
(C) It is a scientific fund dedicated solely to space exploration and global satellite deployment missions.
(D) It offers financial instruments, including grants and loans, to support adaptation and mitigation in developing nations.

48. Which of the following interventions would typically be EXCLUDED from an Ecosystem-based Adaptation (EbA) approach in an urban area?
(A) Restoring urban wetlands to act as sponges during heavy rainfall
(B) Planting native tree species to reduce the urban heat island effect
(C) Constructing a purely concrete storm-water drainage network over a natural riverbed
(D) Developing green roofs and vertical gardens on municipal buildings

49. Under the City Resilience Framework, how is "Urban Resilience" defined?
(A) The ability of a city to completely prevent all natural disasters from occurring within its limits.
(B) The capacity of urban systems and individuals to survive, adapt, and grow despite chronic stresses or acute shocks.
(C) The speed at which a city's GDP recovers following a major recession, regardless of social indicators.
(D) The structural integrity of municipal buildings required to withstand high-intensity weather events.

50. Match the Sendai Framework Priorities for Action in List I with their descriptions in List II.
List I: (Sendai Framework Priority)
P. Priority 1
Q. Priority 2
R. Priority 3
S. Priority 4
List II: (Description)
1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response and to "Build Back Better"
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-3, R-4, S-1
(C) P-4, Q-3, R-2, S-1
(D) P-1, Q-3, R-2, S-4

51. What is the target implementation period of the Sendai Framework for Disaster Risk Reduction?
(A) 2000–2015
(B) 2010–2025
(C) 2015–2030
(D) 2020–2050

52. Identify the INCORRECT pair regarding the dimensions of the City Resilience Index (CRI).
(A) Health & Wellbeing - Minimal human vulnerability
(B) Economy & Society - Comprehensive security and rule of law
(C) Leadership & Strategy - Complete privatization of basic municipal services
(D) Infrastructure & Environment - Reduced

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(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

79. Consider the following channels through which private sector engagement in disaster risk governance can contribute:
1. Business continuity planning to ensure supply chains remain functional during crises.
2. Corporate Social Responsibility (CSR) funding directed towards community resilience projects.
3. Supplying heavy machinery and technical expertise during the response phase.
4. Usurping the authoritative command of the State Emergency Operations Centre.

Which of the above statement(s) is/are correct?
(A) 1, 3, and 4 only
(B) 2, 3, and 4 only
(C) 1, 2, and 4 only
(D) 1, 2, and 3 only

80. A developer applies for development permission to construct a residential complex near the Kaliasot River in Bhopal. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam (MPTGNP Act), 1973, the Town and Country Planning officer denies the permission. What is the most legally sound governance rationale for this denial?
(A) The land is currently proposed for the development of a Special Economic Zone for software companies.
(B) The developer failed to secure the necessary long-term infrastructure funding from the World Bank.
(C) The site falls within a statutory flood plain or green belt zone where intensive construction is prohibited.
(D) The proposed architectural style does not match the historical heritage buildings of the local area.

81. In the context of disaster risk governance, a municipality implements an "Insurance and Risk Transfer Mechanism" for its lower-income settlements. What does this conceptually achieve?
(A) It transfers the physical risk of flooding and related hazards to a neighboring municipality.
(B) It shifts the financial burden of disaster losses from residents to financial markets or insurance entities.
(C) It guarantees that natural disasters will physically bypass settlements that have purchased insurance.
(D) It transfers the political accountability of the local mayor to the participating insurance companies.

82. In Madhya Pradesh, which grassroots level community institution has been frequently empowered under urban governance frameworks to participate actively in local disaster risk reduction and civic issue management?
(A) Zila Parishads
(B) State Finance Commission
(C) Board of Directors of Smart City SPVs
(D) Mohalla Samitis (Ward Committees)

83. Which of the following statements is correct regarding accountability and monitoring in disaster risk reduction (DRR) policies?
(A) The Sendai Framework Monitor is a management tool used by countries to track progress against global targets.
(B) Accountability in DRR implies that local governments are exempt from financial auditing if a disaster is declared.
(C) Monitoring of DRR policies in India is conducted exclusively by the United Nations without national involvement.
(D) Transparency in the distribution of relief funds significantly reduces the accountability of local authorities.

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84. Regarding the linkage between international frameworks and urban Disaster Risk Reduction (DRR), which of the following is NOT an objective supported by the Paris Agreement?
(A) Enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change in urban areas.
(B) Mobilizing climate finance to assist developing countries with mitigation and adaptation efforts.
(C) Mandating a legally binding unified architectural building code for all member

policy is an example of which type of climate strategy?
(A) Industrial greenhouse gas mitigation
(B) Geothermal energy integration
(C) Water security and climate adaptation
(D) Carbon sequestration and trading

33. Arrange the following policy developments related to climate change in chronological order:
1. Formation of the United Nations Framework Convention on Climate Change (UNFCCC)
2. Release of the National Action Plan on Climate Change (NAPCC) in India
3. Adoption of the Paris Agreement
4. Release of the first Madhya Pradesh State Action Plan on Climate Change (MP SAPCC)

(A) 1, 2, 4, 3
(B) 2, 1, 3, 4
(C) 1, 4, 2, 3
(D) 2, 4, 1, 3

34. To combat climate vulnerabilities in the agricultural fringes of the Narmada river basin in Madhya Pradesh, which of the following is considered an effective agriculture adaptation strategy?
(A) Shifting completely to water-intensive cash crops to maximize seasonal revenue.
(B) Expanding urban sprawl into highly fertile agricultural zones to boost urbanization.
(C) Abolishing the minimum support price (MSP) for all grains to stimulate trade.
(D) Promoting micro-irrigation, crop diversification, and drought-resistant seed varieties.

35. Which of the following accurately describes a Community-based Adaptation (CBA) approach?
(A) A framework empowering local communities to identify climate risks and implement context-specific adaptation practices.
(B) A top-down international model where global agencies enforce mandated structural changes on local governments.
(C) An economic relief model that relies exclusively on funding from private corporations for disaster recovery.
(D) A government-led policy focused on the forced relocation of vulnerable populations without community consent.

36. Which of the following is NOT one of the 8 core missions under the National Action Plan on Climate Change (NAPCC)?
(A) National Mission for Sustainable Agriculture
(B) National Mission on Strategic Knowledge for Climate Change
(C) National Mission for Rapid Industrialization
(D) National Mission for Enhanced Energy Efficiency

37. What role does the Green Climate Fund (GCF) play in international climate adaptation?
(A) A global fund established to support developing nations in financing both climate adaptation and mitigation efforts.
(B) An investment pool dedicated to helping fossil fuel companies transition to renewable energy sources.
(C) A regulatory body responsible for auditing and validating carbon credits issued to developed nations.
(D) An international insurance agency providing payouts to urban centers affected by seismic activities.

38. Match the climate hazard in List I with its corresponding health adaptation measure in List II.
List I: (Climate hazard)
P. Extreme Heatwaves
Q. Vector-borne diseases (e.g., Dengue/ Malaria)
R. Flash Flooding
S. Drought-induced food insecurity
List II: (Health adaptation measure)
1. Establishing early warning systems, cooling centers, and changing work hours
2. Enhancing epidemiological disease surveillance and mosquito control programs
3. Ensuring safe drinking water supply to prevent water-borne disease outbreaks like cholera
4. Implementing nutritional supplementation and monitoring malnutrition indices

(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-3, R-2, S-4
(D) P-3, Q-4, R-1, S-2

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91. Consider the following measures by which land use planning functions as a governance tool for flood mitigation:
1. Demarcating prohibited zones for residential construction near river banks.
2. Allocating land for detention basins and green buffers.
3. Mandating the maximum permissible impervious surface coverage in specific zones.
4. Encouraging the construction of critical facilities (like hospitals) inside the 10-year floodplain.

Which of the above statement(s) is/are correct?
(A) 1, 3, and 4 only
(B) 1, 2, and 3 only
(C) 2, 3, and 4 only
(D) 1, 2, and 4 only

92. An Assistant Town Planner is tasked with site selection for a new district hospital in a seismically active zone. Applying disaster risk governance principles, the planner rejects a seemingly ideal plot located near the city center. What is the most likely risk-based justification?
(A) The plot is too close to a commercial mall, which would distract patients and staff.
(B) The plot lies directly over an active geological fault line, posing a high structural risk.
(C) The land value is too high for public infrastructure development under the current city budget.
(D) Hospitals are not legally permitted to be built within municipal limits in seismic zones.

93. Integrating the targets of the Paris Agreement into local city planning directly requires urban planners to conceptualize strategies for:
(A) Decarbonizing the transport sector, enhancing building energy efficiency, and expanding urban carbon sinks.
(B) Increasing reliance on coal-based power generation for municipal facilities to ensure grid stability.
(C) Expanding urban sprawl to increase the city's geographical footprint for future development.
(D) Deregulating environmental clearances for heavy industries operating within the core city limits.

94. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, which specific planning instrument is primarily utilized to enforce hazard zoning and restrict development in environmentally sensitive or disaster-prone areas?
(A) The State Annual Budget allocated for urban infrastructure and social development.
(B) The Municipal Property Tax Register used for calculating annual civic revenue.
(C) The Development Plan (Master Plan) and its associated Zoning Regulations.
(D) The Industrial Policy of the State governing the establishment of manufacturing units.

95. Which statement accurately reflects the requirements for local implementation under the Sendai Framework?
(A) Local governments must wait for international funding before drafting local DRR strategies.
(B) It mandates that local municipalities must surrender their DRR powers to the military.
(C) It states that local implementation is optional and dependent on corporate sponsorships.
(D) It calls for a substantial increase in the number of national and local DRR strategies by 2020.

96. Which of the following is NOT generally considered an accountability mechanism in Disaster Risk Reduction policies?
(A) Social audits of relief distribution by local communities
(B) Mandatory compliance reporting under the Sendai Framework Monitor
(C) Issuance of gag orders preventing media coverage of disaster damage
(D) Legislative oversight through Public Accounts Committees

97. What is the fundamental concept of a "Net-zero energy building"?
(A) A building that operates entirely off-grid without any connection to the municipal power supply system.
(B) A building that produces as much renewable energy on-site as it consumes on an annual basis.
(C) A building with zero total energy consumption throughout its lifecycle,

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Correct identification of these roles is essential for understanding how the government structures its command and control during national emergencies and disasters.

17. (C) A is true but R is false.
State governments provide immediate financial help to victims of notified disasters to assist with their urgent needs. This relief machinery is essential for rapid recovery after a catastrophe. However, the State Disaster Response Fund is not limited to long-term projects. In fact, its primary purpose is to provide immediate relief for victims of disasters, rather than focusing solely on long-term infrastructure.

18. (A) Both Statement I and Statement II are correct.
The State Disaster Response Fund is a statutory fund established to provide immediate financial relief during disasters. In Madhya Pradesh, the funding follows a specific cost-sharing arrangement between the central and state governments. The center provides the majority of the allocation, while the state contributes a smaller portion. This collaborative financial model ensures that states have adequate resources to manage emergencies effectively.

19. (A) 1, 2, and 4 only
A comprehensive state disaster management plan includes critical components like risk assessments, departmental roles, and emergency procedures. These elements provide a roadmap for coordination and action during crises. While the plan guides urban safety, it typically does not include private architectural blueprints. Instead, it focuses on systemic preparedness and response strategies to mitigate the impact of hazards on the population and the environment.

20. (C) Specially trained units of the State Disaster Response Force (SDRF) and local Fire Services.
Industrial areas like Pithampur require specialized response capabilities for chemical and hazardous material incidents. Local fire services and specifically trained state response units are the first responders equipped to handle these complex situations. They possess the technical expertise and equipment necessary to contain leaks and manage biological or radiological threats. This localized specialized capacity is crucial for preventing industrial accidents from escalating.

21. (A) 2, 3, 1, 4
The disaster management cycle follows a logical sequence aimed at reducing impact and ensuring recovery. It begins with mitigation efforts to prevent risks before they occur. This is followed by preparedness activities to ensure a ready response. When a disaster strikes, immediate response actions are taken. Finally, the recovery phase focuses on restoring normalcy and building back better to reduce future vulnerabilities.

22. (D) Madhya Pradesh Special Armed Force (SAF) and Home Guards
In Madhya Pradesh, the State Disaster Response Force is primarily composed of personnel from the Special Armed Force and the Home Guards. These individuals are trained in specialized rescue techniques and emergency response. Leveraging existing disciplined forces allows the state to maintain a professional and ready response unit. This structure ensures that the SDRF can be quickly mobilized for search and rescue operations.

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23. (B) DDMA ensures that state and national guidelines are integrated into the municipal developmental plans.
The District Disaster Management Authority plays a critical role in urban governance by bridging national policies and local implementation. It works with municipal bodies to ensure that disaster risk reduction is mainstreamed into city development plans. This integration is vital for building resilient urban environments. By coordinating between different levels of government, the authority ensures that urban growth does not increase community vulnerability.

24. (C) State Emergency Operations Centre (SEOC)
While the Disaster Management Act of 2005 created several statutory authorities at various levels, not all disaster-related facilities are separate statutory bodies. Authorities at the national, state, and district levels are legally established under the act. However, the emergency operations center is a functional facility managed by the state government rather than an independent

(A) Maximizing residential bedroom sizes and local neighborhood amenities for the staff.
(B) Proximity to primary schools and local public parks for recreational purposes.
(C) Enhancing occupational health, safety, and energy-efficient manufacturing processes.
(D) Aesthetic value of the factory façade and artistic landscaping of the front entry.

105. In the context of green building design, which strategy directly improves Indoor Environmental Quality (IEQ)?
(A) Maximizing the use of impermeable concrete for outdoor landscaping
(B) Installing high-wattage incandescent lighting in all workspaces
(C) Sealing windows permanently to prevent any fresh air intake
(D) Using paints, coatings, and adhesives with low Volatile Organic Compounds (VOCs)

106. In Madhya Pradesh, the provisions of the Energy Conservation Building Code (ECBC) 2017 are integrated and implemented at the municipal level primarily through which regulatory framework?
(A) The Madhya Pradesh Bhumi Vikas Niyam, 2012
(B) The MP Motor Vehicles Rules
(C) The MP Tenancy Act
(D) The MP Stamp Duty Act

107. Which of the following statements correctly lists the assessment categories used in the BREEAM rating system?
(A) Profitability, Advertising, Aesthetic Appeal, and Structural Height categories for commercial buildings.
(B) Management, Health, Energy, Transport, Water, Materials, Waste, Land Use, Ecology, and Pollution categories.
(C) Vastu Shastra compliance, Astrological alignment, and traditional craftsmanship assessment categories.
(D) Political alignment, local labor employment rates, and trade union participation assessment categories.

108. Which of the following is NOT considered a core concept or objective of a Green Building?
(A) Maximizing energy and water efficiency
(B) Maximizing the Urban Heat Island (UHI) effect
(C) Reducing the embodied energy of building materials
(D) Ensuring optimal Indoor Environmental Quality (IEQ)

109. What does the term "Indoor Environmental Quality (IEQ)" encompass in green building rating systems?
(A) The quality of a building's environment regarding occupant health, including air, light, and thermal conditions.
(B) The visual aesthetics and artistic appeal of interior decoration within the building's common areas.
(C) The structural integrity of interior load-bearing walls and the stability of the foundation system.
(D) The speed and reliability of wireless internet connectivity provided to occupants within the structure.

110. Match the IGBC Rating Systems in List I with their target development types in List II.
List I: (IGBC Rating System)
P. IGBC Green Homes
Q. IGBC Green Townships
R. IGBC Green Cities
S. IGBC Green Existing Buildings
List II: (Target development type)
1. Large scale master-planned residential and mixed-use developments
2. Assessment of urban governance, city-level infrastructure, and macro-sustainability
3. Individual residential units or multi-dwelling residential buildings
4. Upgrading and maintaining operational efficiency of older, already constructed facilities
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-1, R-4, S-3

111. The Indian Green Building Council (IGBC), which spearheads the green building movement in India, was formed by which premier industry association?
(A) Federation of Indian Chambers of Commerce & Industry (FICCI)

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areas remain resilient to droughts and water shortages.

33. (A) 1, 2, 4, 3
The evolution of global and national climate policy has progressed through several major milestones. It began with international conventions establishing a framework for global cooperation. India followed by launching its own national action plan to address domestic challenges. States then developed localized strategies to implement these goals. This process eventually culminated in major international agreements focused on setting ambitious targets for global temperature control and resilience.

34. (D) Promoting micro-irrigation, crop diversification, and drought-resistant seed varieties.
Agriculture in river basins is increasingly vulnerable to climate fluctuations. Effective adaptation involves shifting toward more resilient farming practices. By using micro-irrigation, farmers can conserve water while maintaining productivity. Diversifying crops and using drought-resistant seeds also help reduce the risk of crop failure during extreme weather events. These strategies are essential for ensuring food security and maintaining the livelihoods of farming communities in climate-sensitive regions.

35. (A) A framework empowering local communities to identify climate risks and implement context-specific adaptation practices.
Community-based adaptation is a bottom-up approach that prioritizes local knowledge and participation. It recognizes that those most affected by climate change are best positioned to identify their own vulnerabilities. By empowering communities to develop and implement their own adaptation strategies, this framework ensures that solutions are culturally appropriate and sustainable. This approach fosters resilience by building the capacity of local people to manage climatic risks.

36. (C) National Mission for Rapid Industrialization
The National Action Plan on Climate Change consists of eight core missions designed to address different aspects of climate resilience and mitigation. These missions cover areas like solar energy, water management, sustainable agriculture, and habitat. While industrial development is a national priority, rapid industrialization is not one of these specific climate missions. Instead, the focus is on enhancing energy efficiency within industries and promoting sustainable practices across the economy.

37. (A) A global fund established to support developing nations in financing both climate adaptation and mitigation efforts.
The Green Climate Fund is a key financial mechanism under international climate agreements. Its primary purpose is to help developing countries transition to low-emission pathways and adapt to the impacts of climate change. By providing grants, loans, and other financial instruments, the fund supports projects that reduce greenhouse gas emissions and build resilience in vulnerable communities. This international support is vital for achieving global climate goals.

38. (A) P-1, Q-2, R-3, S-4
Different climate-related hazards require specific health adaptation strategies to protect populations. Heatwaves are managed through early warnings and cooling centers, while vector-borne diseases require enhanced surveillance and mosquito control. During floods, ensuring safe water is critical to prevent outbreaks of waterborne diseases. Food insecurity caused by drought is addressed through nutritional monitoring and supplementation. These targeted interventions are essential for reducing the public health burden of climate change.

39. (B) National Bank for Agriculture and Rural Development (NABARD)
In India, certain financial institutions are designated to manage and implement projects funded by global climate mechanisms. The national bank for agriculture and rural development serves as the implementing entity for the international Adaptation Fund. In this role, it facilitates the flow of financial resources to projects that enhance climate resilience in rural and agricultural sectors, ensuring that adaptation efforts reach the most vulnerable populations.

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first five years of the building's operation.
(C) Exemption from the legal requirement to conduct a mandatory environmental impact assessment.
(D) Additional Floor Area Ratio (FAR) or Built-up area allowances beyond standard limits.

119. Which of the following statements correctly compares the GRIHA and LEED rating systems in the Indian context?
(A) GRIHA utilizes a standard Platinum, Gold, and Silver ranking, whereas LEED exclusively uses a 1 to 5 Star ranking.
(B) GRIHA is tailored to India's climates and passive architecture, whereas LEED is a US-origin system with an Indian adaptation.
(C) GRIHA is mandated by national law for all private residential houses, while LEED is strictly used for government offices.
(D) LEED does not assess operational energy efficiency, while GRIHA focuses solely on the reduction of energy consumption.

120. Which of the following Green Building Rating systems does NOT use the nomenclature of "Certified, Silver, Gold, Platinum" or "Pass, Good, Very Good, Excellent, Outstanding" for its certification levels?
(A) LEED
(B) IGBC
(C) GRIHA
(D) BREEAM

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ANSWERS

1. (B) A catastrophe, mishap, or calamity in any area arising from natural or man-made causes, resulting in substantial loss of life, property, or environment.
The Disaster Management Act of 2005 legally defines a disaster as a sudden event causing great damage or loss. This definition encompasses both natural and human-induced incidents. It emphasizes the scale of impact on human lives, assets, and the ecological surroundings. Legal recognition ensures that structured response mechanisms and resource allocations are triggered for effective management and recovery.

2. (A) P-3, Q-4, R-1, S-2
State-level disaster management involves distinct bodies with specific mandates. The State Disaster Management Authority focuses on policy and planning. The State Executive Committee handles the implementation of these plans and supports the authority. The State Emergency Operations Centre manages real-time information flow and warnings. Finally, the State Disaster Response Force executes specialized on-ground rescue and search operations during crisis situations.

3. (A) The Chief Minister of Madhya Pradesh
Under the Disaster Management Act, 2005, the highest political executive of the state leads the State Disaster Management Authority. This ensures that the authority has the necessary administrative power and political weight to coordinate across various government departments. In Madhya Pradesh, this ex-officio role is occupied by the head of the state government to facilitate rapid decision-making during emergencies.

4. (C) Chief Executive Officer - Superintendent of Police
The District Disaster Management Authority is structured to include key local administrative and elected officials. While the District Magistrate and Zila Panchayat President hold leadership roles, the Superintendent of Police is a member but not the Chief Executive Officer. This organizational structure ensures that disaster response remains integrated with local governance and that specific roles are clearly defined for administrative efficiency.

5. (C) A is true but R is false.
The Incident Command System is a flexible management tool designed to coordinate multiple agencies during urban disasters. It is highly effective because it organizes resources and personnel into a clear structure. However, it is not a rigid or unchangeable hierarchy. Instead, it is modular and expandable, allowing the organization to grow or shrink based on the scale of the emergency.

6. (C) Statement I is correct and Statement II is incorrect.
Urban Local Bodies play a vital role in integrating risk reduction into city planning and development. They are legally mandated to incorporate disaster resilience into master plans and local projects. However, they do not have the sole authority to deploy national forces like the NDRF. Such deployment usually requires coordination through district and state-level authorities during major emergencies or disasters.

7. (B) 1, 2, and 4 only
The Disaster Management Act of 2005 established a robust institutional framework across national, state, and district levels. It provided for specialized forces and dedicated mitigation funds to enhance preparedness. While the act encourages multi-stakeholder participation, it does not mandate that private corporations fund all district operations. Funding primarily comes from government allocations and dedicated national and state-level disaster response funds.

8. (C) A senior local administrator, such as the Sub-Divisional Magistrate or the designated Tehsildar.
During an immediate urban crisis where standard communication has failed, local administrative officials assume the role of Incident Commander. These officials are positioned on the ground and have the authority to manage immediate rescue

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operations. This decentralized leadership is a core feature of the Incident Command System, ensuring that response begins even before higher-level state or national forces can arrive.

9. (A) 2, 1, 3, 4
The institutionalization of disaster management in India followed a clear progression over time. It began with the formation of high-powered committees to study risks and recommend structures. This led to the landmark legislative enactment in 2005. Subsequently, states like Madhya Pradesh established their own authorities. Finally, comprehensive national plans were formulated to guide holistic disaster management and long-term mitigation strategies.

10. (A) The State Disaster Management Authority (SDMA)
In the hierarchical structure of disaster management, district-level plans are essential for localized response and mitigation. Once the District Disaster Management Authority prepares these plans, they must undergo review and approval by the State Disaster Management Authority. This ensures that district strategies align with the broader state-level policies and that resources are allocated efficiently across the different regions of the state.

11. (B) It acts as a dedicated 24x7 nodal point for communication, early warning dissemination, and coordination during a disaster.
The State Emergency Operations Centre serves as the central hub for managing information during disasters. Operating continuously, it ensures that early warnings reach relevant stakeholders and that communication remains fluid between various response agencies. This facility is critical for monitoring emerging threats and coordinating the deployment of resources, making it the backbone of the state's tactical disaster response and communication infrastructure.

12. (B) Providing long-term structural rehabilitation and reconstruction of damaged urban housing.
The National Disaster Response Force is a specialized agency focused on immediate search, rescue, and life-saving operations during major calamities. It handles complex situations involving floods, earthquakes, and chemical emergencies. However, its mandate does not include the long-term reconstruction or rehabilitation of urban infrastructure. Such tasks are typically managed by municipal bodies and other specialized state departments after the emergency phase concludes.

13. (A) What is the Incident Command System (ICS) in the context of disaster management?
The Incident Command System is a globally recognized management tool used to coordinate emergency responses. It provides a common organizational structure that allows diverse agencies to work together effectively. By integrating personnel, equipment, and communications within a single system, it reduces confusion on the ground. This framework is used for all types of incidents, ranging from small local events to large-scale disasters.

14. (A) P-3, Q-1, R-4, S-2
Different forces have specialized roles within the disaster response hierarchy. The national force provides high-level technical expertise for severe calamities. State-level responders are the primary team for local emergencies. Auxiliary units like Home Guards provide essential support and are often integrated into broader response efforts. The military is mobilized as a last resort when civilian capacities are overwhelmed by the scale of the crisis.

15. (D) The Revenue Department
In Madhya Pradesh, the Revenue Department is the designated nodal agency for managing disaster-related activities. This department is responsible for coordinating relief efforts, assessing damages, and distributing compensation to affected individuals. Its widespread administrative presence at the district and tehsil levels allows it to effectively manage the logistics of disaster response and recovery across the state's diverse and vast geographic areas.

16. (C) National Executive Committee - Headed by the Prime Minister
Effective disaster management requires leadership at various administrative levels. While the National Disaster Management Authority is headed by the Prime Minister, the National Executive Committee is led by the Union Home Secretary. This distinction separates high-level policy-making from executive implementation.

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including the construction phase.
(D) A building that does not use electricity for heating or cooling, relying solely on natural ventilation.

98. Match the Green Building Rating Systems in List I with their originating organizations or countries in List II.
List I: (Green Building Rating System)
P. GRIHA
Q. LEED
R. BREEAM
S. IGBC
List II: (Originating organization/country)
1. TERI (The Energy and Resources Institute) and MNRE, India
2. US Green Building Council (USGBC), USA
3. Building Research Establishment (BRE), UK
4. Confederation of Indian Industry (CII), India
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-3, R-2, S-4
(D) P-4, Q-2, R-3, S-1

99. Under the GRIHA (Green Rating for Integrated Habitat Assessment) framework, what is the maximum rating level awarded to an exceptionally sustainable building?
(A) 5 Stars
(B) 3 Stars
(C) Platinum
(D) Outstanding

100. Identify the INCORRECT pair regarding the certification levels of the LEED (Leadership in Energy and Environmental Design) rating system.
(A) Certified - 40 to 49 points
(B) Silver - 50 to 59 points
(C) Gold - 60 to 79 points
(D) Diamond - 80 points and above

101. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): The Energy Conservation Building Code (ECBC) 2017 establishes minimum energy performance standards for commercial buildings in India.
Reason (R): The ECBC applies exclusively to small residential houses and rural agricultural structures.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

102. Consider the following statements regarding government mandates for green buildings in India:
Statement I: The Bureau of Energy Efficiency (BEE) is the statutory body responsible for implementing the Energy Conservation Act, 2001, and developing the ECBC.
Statement II: State governments are empowered to modify the ECBC to suit local climatic conditions before making it mandatory through local building bylaws.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

103. Consider the following criteria evaluated under the GRIHA rating system for buildings:
1. Site Planning and Preservation of Existing Vegetation
2. Optimization of Building Design to Reduce Cooling Demand
3. Utilization of Renewable Energy Sources
4. The financial profitability of the commercial tenants
Which of the above statement(s) is/are correct?
(A) 1, 3, and 4 only
(B) 1, 2, and 3 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

104. A new commercial complex in Bhopal's Mandideep industrial area is aiming for the IGBC Green Factory rating. Which specific aspect will the rating system heavily emphasize compared to a standard residential rating?

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statutory organization created directly by the specific legislation itself.

25. (D) Adaptation involves system adjustments to climatic stimuli, while mitigation involves reducing greenhouse gas emissions.
Climate strategies are broadly categorized into two types: adaptation and mitigation. Adaptation focuses on adjusting human and natural systems to the actual or expected effects of climate change to minimize harm. Mitigation, on the other hand, involves actions to reduce the sources or enhance the sinks of greenhouse gases. Both strategies are necessary to address the long-term challenges posed by a changing global climate.

26. (A) P-3, Q-4, R-1, S-2
India's national climate strategy includes several missions targeting specific sectors for resilience and sustainability. These missions aim to increase renewable energy use, improve water efficiency, and protect fragile mountain ecosystems. Additionally, they focus on making urban habitats more sustainable through better waste management and energy-efficient building practices. Together, these initiatives represent a comprehensive approach to addressing climate change through sectoral targets and coordinated national action.

27. (B) Environmental Planning and Coordination Organisation (EPCO)
The Environmental Planning and Coordination Organisation serves as the lead agency for climate change policy in Madhya Pradesh. It is responsible for drafting the state action plan and coordinating between various departments to ensure its implementation. By bringing together technical expertise and administrative oversight, this organization ensures that state-specific climate vulnerabilities are addressed through structured planning and informed policy decisions across all sectors.

28. (B) National Water Mission - Ministry of Agriculture and Farmers Welfare
Each mission under the National Action Plan on Climate Change is led by a specific union ministry. While agriculture is vital for climate strategy, the water mission is actually led by the ministry responsible for water resources and Jal Shakti. Understanding these ministerial responsibilities is important for tracking how climate goals are integrated into sectoral governance and how resources are managed at the national level.

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29. (A) Both A and R are true and R is the correct explanation of A.
Rapid urban expansion in major cities often leads to the development of urban heat islands. This phenomenon occurs because man-made surfaces like concrete and asphalt absorb more heat than natural landscapes. As these cities grow, the concentration of such surfaces increases local temperatures significantly. Therefore, implementing adaptation measures is crucial for protecting urban populations from the health and environmental impacts of rising heat.

30. (C) Statement I is correct and Statement II is incorrect.
Ecosystem-based adaptation utilizes nature and biodiversity to help communities cope with climate change impacts. This approach focuses on using natural processes, such as wetland restoration or forest conservation, rather than relying solely on hard engineering solutions like concrete walls. By protecting and restoring ecosystem services, this strategy provides sustainable and cost-effective ways to reduce vulnerability and enhance the resilience of both people and the environment.

31. (D) 1, 2, and 3 only
The mission for sustainable habitats focuses on improving the environmental performance of urban areas. Key areas of focus include enhancing energy efficiency in buildings and managing the growing volume of municipal waste. Additionally, promoting sustainable urban transport is a core objective to reduce emissions. These efforts aim to create more resilient and liveable cities while addressing the challenges of rapid urbanization and climate change.

32. (C) Water security and climate adaptation
Mandating rainwater harvesting in urban areas is a key strategy for enhancing water security. By capturing and storing rainwater, cities can reduce their dependence on dwindling groundwater and external water sources. This practice is a form of climate adaptation as it helps communities manage the variability in rainfall caused by climate change. Such policies ensure that urban

(B) Associated Chambers of Commerce and Industry of India (ASSOCHAM)
(C) National Association of Software and Service Companies (NASSCOM)
(D) Confederation of Indian Industry (CII)

112. Identify the INCORRECT pair regarding the structure of criteria in the GRIHA rating system.
(A) Mandatory Criteria - Essential requirements that must be met to qualify for certification (e.g., preserving topsoil)
(B) Optional/Appraisal Criteria - Offer flexibility to earn points through various sustainable strategies
(C) Exemption Criteria - Allows developers to bypass environmental laws by paying a carbon tax
(D) Innovation Points - Awarded for implementing strategies beyond standard GRIHA requirements

113. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R). Read the statements and choose the correct option.
Assertion (A): While constructing a LEED Platinum certified building may incur a higher initial capital cost, its lifecycle cost is significantly lower.
Reason (R): Green buildings achieve substantial savings in operational costs through reduced energy and water consumption over the building's lifespan.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

114. Consider the following statements regarding the BREEAM rating system:
Statement I: BREEAM originated in the United Kingdom and is recognized as the world's first sustainability assessment method for buildings.
Statement II: BREEAM certification is exclusively restricted to buildings located within Europe and cannot be used globally.
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

115. Consider the following core credit categories in LEED BD+C (Building Design and Construction):
1. Location and Transportation
2. Sustainable Sites
3. Water Efficiency
4. Corporate Financial Turnover
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

116. A large 150-acre housing development project in Indore is seeking sustainability certification. Which specific GRIHA framework is most appropriate for evaluating the environmental impact of this macro-level site planning and infrastructure?
(A) GRIHA for Existing Buildings
(B) SVAGRIHA (Simple Versatile Affordable GRIHA)
(C) GRIHA for Large Developments (GRIHA LD)
(D) GRIHA for Daycares

117. In green building terminology, which conceptual approach is used to lower the "embodied energy" of a construction project?
(A) Sourcing local, recycled, and low-energy manufacturing materials like fly-ash bricks.
(B) Importing steel and glass from distant countries to ensure premium quality.
(C) Increasing the use of energy-intensive aluminum cladding on the exterior.
(D) Running construction equipment 24/7 to finish the project faster.

118. To promote the green building market, the Government of Madhya Pradesh offers which specific incentive to developers securing high sustainability ratings?
(A) Complete exemption from all corporate and income tax for a period of ten years.
(B) Free supply of municipal electricity for the

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40. (C) Groundwater Recharge - Deforestation to expose topsoil and increase rapid surface runoff
Groundwater recharge is a critical process for maintaining water security, but it relies on increasing the infiltration of water into the soil rather than promoting surface runoff. Deforestation actually hinders this process by removing vegetation that helps hold water and soil. Effective recharge strategies include protecting forests and using techniques like recharge pits to replenish underground aquifers. Incorrect practices can lead to soil erosion and reduced water availability.

41. (C) A is true but R is false.
Moving populations away from high-risk areas is sometimes necessary as an adaptation strategy. Planned relocation can protect lives and livelihoods from severe climate threats that cannot be mitigated on-site. However, this process is distinct from forced eviction, as it should be conducted with the consent and participation of the affected community. Ensuring that relocation is managed fairly and safely is essential for achieving positive resilience outcomes.

42. (A) Both Statement I and Statement II are correct.
Agriculture in urban fringe areas plays a dual role in climate resilience. Shifting to diversified cropping systems helps peri-urban farmers adapt to changing climatic conditions and market demands. Simultaneously, maintaining agricultural land provides essential ecological services, such as flood buffering, by keeping the ground permeable. Protecting these areas from uncontrolled urban sprawl is therefore a key strategy for enhancing the overall resilience of the city and its surroundings.

43. (B) 1, 2, and 3 only
An effective health surveillance system for climate risks integrates various types of data to monitor and respond to threats. This includes tracking weather patterns, monitoring disease-carrying insect populations, and observing hospital admission trends during extreme weather events. These components allow health authorities to anticipate and manage the health impacts of climate change. Privatization is not a standard component of such systems, as they primarily rely on public health coordination and data.

44. (B) Issuing color-coded heat warnings based on India Meteorological Department forecasts.
Heat action plans are designed to reduce the health impacts of extreme temperatures through proactive measures. A key early-warning action involves using meteorological forecasts to issue specific alerts to the public. These color-coded warnings help residents and health services prepare for impending heatwaves. By providing timely information, cities like Gwalior can reduce heat-related illnesses and mortalities, demonstrating the effectiveness of structured urban health adaptation strategies.

45. (A) 3, 1, 2, 4
International efforts to build resilience and address climate change have evolved through several key frameworks. It began with broad sustainability goals established at the Earth Summit. This was followed by specific protocols for emission reductions. Later, global frameworks focused on disaster risk reduction were adopted to guide national policies. Most recently, campaigns have been launched to help cities globally build the capacity to survive and thrive despite various shocks and stresses.

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46. (C) Development of decentralized wastewater plants and groundwater recharge pits in public buildings.
Integrating sustainable water management into urban infrastructure is a priority for climate adaptation. In Madhya Pradesh, schemes for urban development focus on decentralized solutions that enhance local water security. By treating wastewater and recharging groundwater, cities can reduce their vulnerability to droughts and floods. These measures not only improve resource efficiency but also contribute to the long-term resilience of urban areas by maintaining essential water-related ecological services.

47. (D) It offers financial instruments, including grants and loans, to support adaptation and mitigation in developing nations.
The Green Climate Fund is a vital tool for international climate finance, providing support for both reducing emissions and building resilience. It uses a variety of financial instruments to fund projects in developing countries. These projects aim to address the unique challenges faced by vulnerable nations in the face of climate

the amount of impervious surface in a city to reduce runoff. While these measures help protect people and property, they also aim to keep critical facilities away from flood-prone areas to ensure that essential services remain functional.

92. (B) The plot lies directly over an active geological fault line, posing a high structural risk.
When choosing locations for critical infrastructure like hospitals, disaster risk must be the primary consideration. In seismically active zones, building over a known geological fault line is extremely dangerous as the structure would be at high risk during an earthquake. Even with advanced engineering, the potential for failure is significant. Therefore, risk-based governance requires that such sites be avoided to ensure that essential healthcare services can continue to operate during and after a major seismic event.

93. (A) Decarbonizing the transport sector, enhancing building energy efficiency, and expanding urban carbon sinks.
Implementing international climate goals at the local level requires a focus on reducing urban emissions and enhancing natural resilience. Planners must look for ways to make transport more sustainable and buildings more energy-efficient. Additionally, expanding green spaces helps absorb carbon and provides other benefits like cooling. These strategies directly align with the targets of the Paris Agreement and are essential for creating low-carbon and resilient cities that can meet the challenges of a changing global climate.

94. (C) The Development Plan (Master Plan) and its associated Zoning Regulations.
In Madhya Pradesh, the primary tool for managing urban growth and ensuring safety is the master plan and its related regulations. These documents provide the legal framework for hazard zoning and for restricting development in sensitive or disaster-prone areas. By setting clear rules for land use and construction, they help ensure that the city's development is organized and resilient. This planning process is vital for protecting residents and infrastructure from the impacts of various natural and man-made hazards.

95. (D) It calls for a substantial increase in the number of national and local DRR strategies by 2020.
The Sendai Framework emphasizes the importance of action at all levels of government to reduce disaster risk. It specifically targets an increase in the number of strategies developed by national and local authorities to guide their resilience efforts. This focus on structured planning ensures that disaster risk reduction is institutionalized and that local governments have a clear roadmap for protecting their communities. Achieving these targets is a key priority for nations working to implement the framework globally.

96. (C) Issuance of gag orders preventing media coverage of disaster damage
Accountability in disaster management is built through transparency and oversight. Mechanisms like community audits, international reporting, and legislative reviews ensure that governments are held responsible for their actions and use of funds. These processes help identify failures and drive improvement. Conversely, restricting information through gag orders undermines accountability and makes it harder to learn from disasters. Open communication and media coverage are essential for a fair and effective disaster management system that serves the public interest.

97. (B) A building that produces as much renewable energy on-site as it consumes on an annual basis.
A net-zero energy building is a highly efficient structure that balances its energy use with its own energy production. Over the course of a year, the building generates enough renewable energy on-site to match the amount of power it draws from external sources. This is achieved through advanced design, energy-saving technologies, and the integration of renewable systems like solar panels. These buildings are a key component of sustainable urban development and help reduce overall carbon emissions.

98. (A) P-1, Q-2, R-3, S-4
Several different organizations around the world have developed rating systems to evaluate the environmental performance of buildings. These systems are tailored to different national and regional contexts, looking at factors like energy

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55. (B) 1, 2, and 3 only
The campaign for making cities resilient focuses on helping urban areas understand and manage their unique disaster risks. It encourages the integration of risk reduction and climate adaptation into local planning and promotes international learning between cities. While the campaign provides tools and roadmaps, it does not mandate a single universal master plan model. Instead, it recognizes that each city must develop context-specific strategies based on its particular vulnerabilities and resources.

56. (C) Zoning natural drainage channels as "No Construction Zones" and integrating them into a green infrastructure network
To build resilience against urban flooding, city master plans must prioritize the protection of natural drainage systems. Restricting construction in flood-prone zones and using these areas for green space helps manage excess water during heavy rains. This strategy prevents new developments from increasing flood risks and maintains the city's natural ability to handle runoff. Integrating green infrastructure is a more sustainable and effective way to manage urban water than relying solely on gray infrastructure.

57. (A) 1, 2, 3, 4
Conducting a post-disaster assessment involves a structured process that starts with mobilizing the necessary teams and resources. These teams then collect detailed data on the damage and losses across various sectors. This information is consolidated and analyzed to understand the full extent of the impact. Finally, this analysis is used to develop a comprehensive recovery framework that outlines the needs and priorities for rebuilding and enhancing the resilience of the affected area.

58. (A) The Mayor-in-Council (MIC)
In the governance structure of municipal corporations in Madhya Pradesh, the Mayor-in-Council is the primary executive body. It holds the power to make key decisions regarding civic administration and is the focal point for initiating urban disaster response at the local level. This body is responsible for integrating resilience into municipal operations and ensuring that the city is prepared to handle various shocks. Its leadership is essential for effective local disaster management.

59. (B) Pre-arranged financial mechanisms, such as catastrophe bonds, used to quickly release funds after a disaster.
Catastrophe financing involves using specialized financial instruments to manage the massive costs associated with major disasters. These mechanisms are established before a disaster occurs to ensure that funds are available quickly for response and recovery. By transferring disaster risks to capital markets or through insurance, governments can protect their budgets from the financial shocks of unexpected catastrophes. This proactive financial planning is a key component of a comprehensive national disaster risk management strategy.

60. (B) Unlimited territorial expansion
The City Resilience Index identifies several key drivers that contribute to a city's ability to withstand and recover from various challenges. These include ensuring human well-being, providing critical services, and empowering stakeholders in the decision-making process. While urban growth is common, unlimited and unplanned territorial expansion is not a driver of resilience. In fact, uncontrolled sprawl can often increase a city's vulnerability by straining infrastructure and exposing more people and assets to potential hazards.

61. (A) A mechanism linking insurance premiums to resilience projects, providing rebates for pre-disaster risk reduction.
Resilience bonds are an innovative financial tool designed to incentivize pre-disaster risk reduction. They work by linking the cost of insurance to the implementation of projects that enhance a city's resilience. When a city invests in measures that lower its risk, the savings in insurance premiums are used to help fund those projects. This creates a financial reward for proactive disaster management, making it more attractive for cities to invest in long-term safety.

62. (A) P-4, Q-1, R-2, S-3
Measuring urban resilience involves looking at various indicators across different sectors. Economic resilience is reflected in the diversity of livelihoods available to citizens. Physical safety

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hazardous areas like active floodplains. By keeping people and assets away from high-risk zones, cities can effectively lower their total vulnerability. However, structural solutions like dams are not infallible and cannot provide complete protection against all future events. Therefore, land use regulations remain a necessary and critical part of a comprehensive disaster management strategy and are never made obsolete by engineering.

78. (A) Both Statement I and Statement II are correct.
India's current national disaster management plan is a modern and comprehensive framework that is aligned with major international agreements on climate and sustainable development. It provides clear guidance on the roles and responsibilities of different government levels throughout all phases of a disaster. By integrating risk reduction across various sectors, the plan helps ensure that national development is resilient and that the country is better prepared to handle various challenges, from climate change to local hazards.

79. (D) 1, 2, and 3 only
Businesses play a crucial role in disaster risk management through several key channels. They ensure their own resilience by planning for business continuity during crises. Additionally, they contribute to broader community safety through targeted funding and by providing technical expertise and equipment during emergencies. While they are vital partners, they do not replace the official government command and control systems. Instead, they work within the established governance frameworks to support national and local disaster response and mitigation efforts.

80. (C) The site falls within a statutory flood plain or green belt zone where intensive construction is prohibited.
Under state planning laws, authorities can deny development permission to protect public safety and environmental health. If a proposed project is located in a high-risk area like a floodplain, the legal justification for refusal is based on hazard zoning and land use regulations. These rules are designed to prevent development that would be vulnerable to disasters or that would worsen risks for others. This risk-based governance is essential for creating sustainable and resilient urban environments.

81. (B) It shifts the financial burden of disaster losses from residents to financial markets or insurance entities.
Risk transfer mechanisms like insurance are key tools for managing the financial impact of disasters on vulnerable communities. By paying a premium, residents and governments can transfer the potential costs of disaster-related losses to another party. This provides a safety net that helps people recover more quickly and prevents them from falling into deep poverty after a catastrophe. While insurance does not stop a disaster from happening, it significantly reduces the long-term financial hardship it causes.

82. (D) Mohalla Samitis (Ward Committees)
Community participation is vital for effective disaster risk reduction at the local level. In the urban areas of Madhya Pradesh, ward committees serve as important grassroots institutions for engaging residents in civic issues and disaster management. These committees allow local people to identify their own risks and participate in planning for their safety. By empowering these community groups, the state ensures that disaster strategies are better informed by local knowledge and that the response is more coordinated.

83. (A) The Sendai Framework Monitor is a management tool used by countries to track progress against global targets.
Monitoring and accountability are essential for ensuring that disaster risk reduction policies are effective. International tools like the Sendai Framework Monitor help nations track their progress in reducing losses and building resilience. This reporting process encourages transparency and allows countries to identify areas where more work is needed. By holding governments accountable for their commitments, these mechanisms drive the continuous improvement of disaster management systems and help ensure that resources are being used effectively to protect lives.

84. (C) Mandating a legally binding unified architectural building code for all member nations.
The Paris Agreement is a major international treaty focused on addressing the global threat of climate change. It aims to strengthen the ability of countries to deal with climate impacts and

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70. (D) Madhya Pradesh Bhumi Vikas Niyam, 2012 (and its amendments)
In Madhya Pradesh, the regulation of urban development is primarily governed by specific state-level rules that set standards for building construction and land use. These rules empower local authorities to control aspects like building height and setbacks to ensure safety and public health. They also provide the legal basis for restricting construction in designated hazard zones, such as flood-prone areas. These regulations are a key tool for implementing disaster risk reduction at the city level.

71. (B) It acts as a global facilitator providing a clear roadmap, tools, and partnerships to help cities build resilience by 2030.
The international organization for disaster risk reduction plays a central role in helping cities worldwide enhance their resilience. Through the MCR2030 campaign, it provides a structured process and a set of tools to guide urban areas in understanding and managing their risks. It also facilitates partnerships and knowledge sharing between different cities. This global support is vital for helping local governments develop and implement effective strategies to protect their residents and infrastructure.

72. (C) Rigidity
Resilient systems are characterized by several key traits that allow them to handle shocks and stresses. These include having redundant components to prevent total system failure and being flexible enough to adapt to changing conditions. Additionally, inclusiveness ensures that all members of the community are protected and involved in resilience efforts. Conversely, rigidity is often a weakness, as it makes systems more likely to break or fail when faced with unexpected or extreme pressures.

73. (D) The coordination between public, private, and civil society actors to manage and reduce disaster risks.
Disaster risk governance refers to the way that various actors across society work together to manage and reduce the threats posed by hazards. It involves not just government agencies but also businesses and community groups. This collaborative approach ensures that risks are identified and addressed from multiple perspectives. Effective governance is essential for creating a comprehensive and sustainable system for protecting people and assets, and for ensuring that resources are used efficiently and fairly.

74. (A) P-1, Q-2, R-3, S-4
National guidelines for different types of disasters focus on specific mitigation strategies tailored to each hazard. Earthquake management emphasizes structural safety and the enforcement of building codes. For urban flooding, the focus is on maintaining drainage systems and protecting water bodies. Cyclone mitigation involves early warnings and resilient coastal infrastructure, while heatwave strategies prioritize public health measures and urban design. These sectoral guidelines provide a roadmap for state and local authorities to build specialized resilience.

75. (B) A shift from focusing on disaster response and relief to a comprehensive focus on managing and reducing risk.
The evolution of global disaster policy has seen a major change in how the world approaches disasters. While older frameworks focused heavily on managing the aftermath of an event through response and relief, the current framework emphasizes the proactive management of disaster risk itself. This shift involves looking at the underlying causes of vulnerability and working to reduce them before a disaster occurs. This comprehensive approach aims to prevent new risks and reduce existing ones globally.

76. (B) Heritage conservation bylaws - Mandates the demolition of all pre-1950 structures in earthquake zones
Building regulations are important tools for managing disaster risks in cities. Controls on setbacks and density help prevent the spread of fire and reduce the exposure of people to hazards. Similarly, rules on plinth height can mitigate the impact of flooding. However, heritage conservation is focused on protecting historical buildings through maintenance and retrofitting rather than their destruction. Demolishing all old structures is not a standard practice for managing risk in earthquake-prone zones or anywhere else.

77. (C) A is true but R is false.
Land use planning is a powerful way to reduce disaster risk by preventing development in

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106. (A) The Madhya Pradesh Bhumi Vikas Niyam, 2012
In Madhya Pradesh, the energy efficiency standards for buildings are integrated into the local development regulations. By including these requirements in the primary state-level building rules, the government ensures that they are applied consistently across all municipal areas. This framework provides the legal basis for enforcing the energy code during the construction and operation of new commercial buildings. This integration is essential for making sustainable building practices a standard part of the state's urban development process.

107. (B) Management, Health, Energy, Transport, Water, Materials, Waste, Land Use, Ecology, and Pollution categories.
The world's first sustainability assessment method for buildings looks at a comprehensive range of categories to determine environmental impact. These include factors like how a building is managed, the energy and water it uses, and the materials used in its construction. Additionally, it evaluates the building's impact on local ecology and its contribution to pollution. This broad approach ensures that all aspects of a building's lifecycle are considered, leading to a more holistic and accurate measure of its sustainability.

108. (B) Maximizing the Urban Heat Island (UHI) effect
Green buildings are designed to minimize their impact on the environment and improve the comfort of their inhabitants. This involves being highly efficient with resources like water and energy and using materials that require less energy to produce. Conversely, these buildings aim to reduce the local temperature increase known as the urban heat island effect by using reflective surfaces and green spaces. Therefore, maximizing heat absorption is contrary to the core principles and objectives of sustainable building design.

109. (A) The quality of a building's environment regarding occupant health, including air, light, and thermal conditions.
Indoor environmental quality refers to the overall quality of a building's internal space as it relates to the health and well-being of the people inside. It includes several key factors like air quality, natural and artificial lighting, and thermal comfort. Green building systems place a high value on this quality because it has a direct impact on the productivity and health of building users. Ensuring a high standard of indoor environment is a central goal of sustainable construction.

110. (A) P-3, Q-1, R-2, S-4
The Indian Green Building Council offers several different rating systems designed for specific types of development. These include systems for individual homes, large master-planned townships, and entire cities. Additionally, there is a specialized rating for improving the operational performance of existing buildings. Each system uses criteria that are relevant to its specific scale and type, ensuring that all kinds of developments can participate in the green building movement and contribute to national sustainability goals.

111. (D) Confederation of Indian Industry (CII)
The leading body for green building in India was established by a prominent national industry association to promote more sustainable construction practices across the country. This initiative brought together various stakeholders from the building and manufacturing sectors to create a unified framework for green ratings. By leveraging the expertise and reach of its parent organization, the council has been able to drive widespread adoption of sustainable building standards and help transform the Indian real estate market toward greater sustainability.

112. (C) Exemption Criteria - Allows developers to bypass environmental laws by paying a carbon tax
The GRIHA rating system uses mandatory and optional criteria that buildings must meet for certification. Mandatory criteria ensure a minimum sustainability level, while optional ones reward innovation. However, the system does not allow developers to bypass legal environmental requirements. All green buildings must comply with national laws, as these ratings are intended to go beyond basic compliance.

113. (A) Both A and R are true and R is the correct explanation of A.
While buildings with the highest sustainability certifications can be more expensive to build initially, they are much cheaper to run over time.

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provides a framework for financial and technical support. While it encourages cities and local governments to take action, it does not mandate a single architectural code for all nations. Instead, countries and cities are encouraged to develop their own context-specific solutions for reducing emissions and building resilience.

85. (A) Formal or informal mechanisms that shift the financial consequences of risks to another party, such as via insurance.
Risk transfer is a financial strategy used to manage the impact of potential losses from disasters. It involves shifting the economic burden of these risks from individuals or governments to another party, often through insurance or other financial contracts. This mechanism ensures that funds are available for recovery after a disaster, reducing the overall financial strain on the affected community. It is a critical component of a comprehensive approach to managing both current and future disaster-related financial risks.

86. (A) P-2, Q-1, R-3, S-4
Global governance for resilience and sustainability is guided by several key international frameworks. These include agreements focused specifically on reducing disaster risk and others dedicated to addressing climate change through emission reductions. Additionally, broad global goals for sustainable development and specific agendas for urban areas provide a comprehensive roadmap for international cooperation. Together, these frameworks help countries and cities align their policies with international best practices for building a more resilient and sustainable future for everyone.

87. (B) 2005-2015
The first comprehensive international framework for disaster risk reduction set clear goals for a ten-year period. It focused on building the resilience of nations and communities to disasters by providing a structured approach for national and local action. This framework paved the way for current global strategies by emphasizing the need for proactive risk management rather than just reactive response. Its implementation period helped raise international awareness and started the process of institutionalizing disaster risk reduction globally.

88. (C) Post-Disaster Needs Assessment (PDNA) - Pre-disaster community awareness campaign tool
Different policy tools are used at various stages of the disaster management cycle. Zoning and building codes are proactive measures used before a disaster to reduce vulnerability and exposure. Catastrophe bonds are financial tools used to transfer risk. However, the post-disaster needs assessment is specifically used after an event to determine the impact and identify recovery requirements. It is not designed as a tool for pre-disaster awareness campaigns, which typically involve educational programs and community training instead.

89. (A) Both A and R are true and R is the correct explanation of A.
In earthquake-prone regions, the quality of construction is the single most important factor for public safety. Most fatalities during seismic events are caused by the collapse of buildings that were not built to withstand the tremors. Therefore, strictly enforcing modern building codes is a vital governance tool for protecting lives. By ensuring that all new structures are resilient, cities can significantly reduce their overall vulnerability to earthquakes and prevent unnecessary deaths and injuries during such disasters.

90. (C) Statement I is correct and Statement II is incorrect.
Global frameworks for disaster risk reduction explicitly recognize that the private sector is a key partner in building resilience. Businesses have a direct interest in ensuring their own safety and contribute significantly to overall community preparedness. Furthermore, developers are legally required to follow building safety standards and environmental regulations. Compliance is not optional, as it is essential for protecting the people who live and work in these buildings and for ensuring that urban development remains sustainable and safe.

91. (B) 1, 2, and 3 only
Land use planning is a versatile tool for managing flood risks in urban areas. It can be used to prevent construction in hazardous zones and to set aside land for natural flood storage and drainage. Additionally, regulations can limit

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is measured by the proportion of the population living in secure areas. Reliable infrastructure, including transport and communication, is essential for a city to function during crises. Finally, the integration of risk assessments into long-term development plans ensures that the city's growth is sustainable and well-managed.

63. (D) ARUP
The globally recognized framework and index for city resilience were developed through a partnership between a major philanthropic foundation and a leading engineering and design firm. This collaboration brought together social insights and technical expertise to create a comprehensive tool for assessing and building urban capacity. The resulting framework helps cities worldwide identify their strengths and weaknesses, allowing them to develop more effective strategies for surviving and thriving in the face of various challenges.

64. (C) Excluding marginal communities - Stakeholder Engagement
Effective urban resilience planning requires the active participation of all segments of the population. Engaging stakeholders ensures that the needs and vulnerabilities of different groups are understood and addressed in the final strategy. Excluding marginal communities is a failure of this process and can lead to inequitable outcomes that leave certain groups more vulnerable. Inclusive engagement is a core principle of good governance and is essential for building a truly resilient and fair city.

65. (A) Both A and R are true and R is the correct explanation of A.
Implementing strict building safety standards often meets with pushback because these measures can increase the initial costs of construction. Developers may be hesitant to adopt features that raise the price of housing or commercial space. However, these upfront investments are critical for preventing catastrophic failures during events like earthquakes. While economic concerns are real, the long-term benefit of saving lives and reducing disaster-related losses far outweighs the initial increase in construction expenditures.

66. (A) Both Statement I and Statement II are correct.
Disaster risk reduction and disaster management are complementary but distinct approaches. Risk reduction is a proactive strategy that focuses on identifying and minimizing the causes of disasters before they happen. Disaster management, on the other hand, deals with the operational aspects of responding to and recovering from an event after it has occurred. Together, these two disciplines provide a comprehensive framework for protecting communities and ensuring that they can recover effectively from shocks.

67. (A) 1, 2, and 3 only
Comprehensive tools for assessing city resilience look at a wide range of data to understand vulnerability and capacity. This includes analyzing the social and economic status of the population and the history of various hazards in the area. Additionally, the strength and reliability of critical infrastructure, such as power and health systems, are key factors. These assessments provide the necessary evidence base for developing targeted strategies that address the most significant risks.

68. (C) Resilience Bonds
When cities need to fund large-scale infrastructure projects to protect against future disasters, they can use innovative financial tools like resilience bonds. These bonds allow the city to monetize the expected reduction in future damages that the project will provide. By linking insurance and capital markets, these instruments provide the necessary upfront capital for building robust stormwater systems or other critical infrastructure. This helps cities manage the financial burden of long-term climate adaptation efforts.

69. (A) a damage ; a loss
The post-disaster needs assessment framework makes a clear distinction between the physical impact of a disaster and its economic consequences. The destruction of physical assets, like buildings or terminals, is categorized as damage. In contrast, the disruption of services and the resulting decrease in income or revenue are categorized as losses. Understanding both aspects is essential for calculating the total impact of a disaster and planning for a full and effective recovery.

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efficiency, water use, and materials. In India, systems like GRIHA and IGBC provide standards for green construction, while international systems like LEED and BREEAM are also widely used. Together, these frameworks help drive the global movement toward more sustainable and energy-efficient building practices.

99. (A) 5 Stars
The GRIHA rating system uses a star-based nomenclature to evaluate the sustainability of buildings in India. It assesses various criteria across different stages of a building's lifecycle, from site planning to operations. The highest level of achievement in this system is represented by five stars, which indicates that a building has met the most rigorous standards for environmental performance. This rating helps developers and owners demonstrate their commitment to sustainability and provides a benchmark for green construction.

100. (D) Diamond - 80 points and above
The LEED rating system uses a point-based scale to determine the level of certification for a green building. Based on the number of points earned across several categories, a building can be certified as Silver, Gold, or Platinum. Platinum is the highest possible certification level and requires earning a high total number of points. There is no diamond level in the LEED system. Understanding these certification tiers is important for accurately assessing and communicating a building's sustainability achievements.

101. (C) A is true but R is false.
The Energy Conservation Building Code 2017 is a key tool for improving the energy performance of new commercial buildings in India. It sets minimum standards for aspects like lighting, cooling, and insulation. However, it does not apply to small residential or agricultural structures. Instead, it targets larger buildings with high energy demands to achieve significant national energy savings. This focus ensures that the code has a meaningful impact on the country's overall energy consumption and carbon emissions.

102. (A) Both Statement I and Statement II are correct.
The bureau of energy efficiency is the lead agency for developing and implementing energy codes in India. While national standards are set, state governments have the flexibility to adapt these codes to their own local climatic and administrative conditions. This allows for a more effective and practical implementation of energy efficiency measures across the country. Once adapted, these codes can be made mandatory through local building laws, ensuring that new developments contribute to national energy goals.

103. (B) 1, 2, and 3 only
The GRIHA system evaluates a wide range of environmental factors to determine a building's sustainability. This includes how the site is planned and managed, the energy efficiency of the building's design, and its use of renewable energy. These criteria ensure that the building has a low environmental impact throughout its life. While economic sustainability is important, the GRIHA rating focuses specifically on the technical and environmental performance of the building rather than the financial profits of its tenants.

104. (C) Enhancing occupational health, safety, and energy-efficient manufacturing processes.
Industrial green building ratings focus on the unique challenges and opportunities of factory environments. Unlike residential ratings, they place a strong emphasis on the health and safety of workers and the efficiency of industrial processes. This includes managing energy use on the factory floor and ensuring high standards of indoor air quality and light. By focusing on these areas, the rating system helps factories reduce their environmental footprint while improving the well-being and productivity of their workforce.

105. (D) Using paints, coatings, and adhesives with low Volatile Organic Compounds (VOCs)
Indoor environmental quality is a key part of green building design that focuses on the health and comfort of occupants. One of the most effective ways to improve this quality is to use building materials that do not release harmful chemicals into the air. Low-VOC paints and coatings are essential for maintaining clean indoor air and preventing respiratory issues for people living or working in the building. This strategy is a standard requirement for achieving high sustainability ratings.

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change. By facilitating large-scale investments, the fund helps these countries transition toward sustainable and climate-resilient development pathways.

48. (C) Constructing a purely concrete storm-water drainage network over a natural riverbed
Ecosystem-based adaptation focuses on using nature to solve environmental challenges and enhance resilience. Strategies like wetland restoration and urban greening are core to this approach as they utilize natural processes. Conversely, replacing natural riverbeds with rigid concrete structures is a traditional engineering solution that often disrupts ecological functions. While such gray infrastructure may have uses, it is fundamentally different from the nature-based solutions that define the ecosystem-oriented adaptation model.

49. (B) The capacity of urban systems and individuals to survive, adapt, and grow despite chronic stresses or acute shocks.
Urban resilience is a holistic concept that describes a city's ability to maintain its functions and thrive even when faced with significant challenges. These challenges include sudden disasters, like floods, and ongoing issues, such as poverty or climate change. A resilient city is one where the systems and the people can adapt to changing circumstances and recover quickly from disruptions. This capacity is essential for ensuring long-term urban stability and well-being.

50. (A) P-1, Q-2, R-3, S-4
The Sendai Framework outlines four clear priorities for reducing disaster risk globally. It starts with improving the understanding of risk among all stakeholders. The second priority focuses on strengthening governance to manage these risks effectively. Investing in resilience through financial and structural measures is the third priority. Finally, the framework emphasizes enhancing preparedness for effective response and recovery, ensuring that communities can rebuild more strongly after any disaster occurs.

51. (C) 2015–2030
The Sendai Framework for Disaster Risk Reduction is a global agreement that sets specific targets for reducing disaster losses over a fifteen-year period. It follows a previous international framework and aims to guide national and local governments in building resilience. The implementation period is aligned with other major global initiatives, such as the Sustainable Development Goals, to ensure a coordinated international effort toward sustainable and risk-informed development across all nations.

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52. (C) Leadership & Strategy - Complete privatization of basic municipal services
Resilience in urban areas is built through strong leadership and integrated strategies that involve all stakeholders. This dimension of resilience focuses on effective governance and inclusive planning rather than the simple privatization of services. A resilient city requires coordinated action between the public sector, private partners, and civil society to manage risks and ensure the continuity of essential services during crises. Effective leadership is critical for driving these complex multi-stakeholder efforts.

53. (A) Both A and R are true and R is the correct explanation of A.
Incorporating disaster risk reduction into city budgets is a proactive strategy that saves costs in the long run. By investing in resilient infrastructure from the beginning, cities can avoid the massive expenses associated with repeated post-disaster reconstruction. This approach ensures that funding is used strategically to prevent losses rather than just responding to them. Mainstreaming risk reduction into financial planning is essential for achieving sustainable and stable urban development.

54. (A) Both Statement I and Statement II are correct.
The Post-Disaster Needs Assessment is a standardized tool used globally to quantify the impacts of a disaster and identify recovery requirements. It goes beyond simple damage assessment to look at broader losses and social impacts. A fundamental goal of this framework is to ensure that recovery efforts do not just restore the status quo but actively improve resilience through better planning and construction. This methodology is vital for effective and transparent recovery.

The high upfront costs are offset by the significant savings in utility bills from reduced energy and water use. This makes them a more cost-effective choice in the long run. Understanding the total cost of ownership, rather than just the initial price, is essential for making informed decisions about investing in high-performance green buildings.

114. (C) Statement I is correct and Statement II is incorrect.
BREEAM was the first system of its kind and has had a major influence on the development of other green building ratings worldwide. While it started in the United Kingdom, it is not restricted to Europe and is now used in many countries around the globe. This international reach allows it to provide a common set of standards for sustainability that can be applied to many different types of buildings.

115. (A) 1, 2, and 3 only
The LEED rating system for new construction evaluates buildings across several core categories that reflect their environmental impact. These include the location of the site and its access to transport, the sustainability of the site itself, and the building's water efficiency. These categories help ensure that the building is integrated into its surroundings and uses resources responsibly. While financial performance is important to owners, it is not a direct sustainability criterion.

116. (C) GRIHA for Large Developments (GRIHA LD)
When a project involves a large area and multiple buildings, it requires a different approach to sustainability assessment. The specialized framework for large developments is designed to look at macro-level site planning and common infrastructure. It evaluates how the entire project manages resources like water and energy and its impact on the local environment. This ensures that large-scale growth is sustainable across the entire site and its surroundings.

117. (A) Sourcing local, recycled, and low-energy manufacturing materials like fly-ash bricks.
Embodied energy refers to the total energy required to produce and transport building materials. To lower this, designers choose materials that are manufactured locally and use less energy to create. Using recycled materials or waste products like fly ash is also a key strategy. This approach reduces the overall environmental footprint of the construction phase and supports more sustainable manufacturing. It is a fundamental part of creating green buildings.

118. (D) Additional Floor Area Ratio (FAR) or Built-up area allowances beyond standard limits.
To encourage the adoption of green building standards, the state government of Madhya Pradesh provides specific incentives to developers. These incentives often take the form of extra built-up area allowances for projects that achieve high sustainability ratings. This allows developers to build more on a given plot, which can help offset the initial costs of green construction. This policy mechanism is an effective way to drive market transformation.

119. (B) GRIHA is tailored to India's climates and passive architecture, whereas LEED is a US-origin system with an Indian adaptation.
Both systems are used to certify green buildings in India, but they have different origins and focuses. One was developed locally to specifically address India's diverse climates and traditional building techniques. The other is a globally recognized system from the United States that has been adapted for use in the Indian market. While they share many goals, their specific criteria and rating levels differ based on their regional development.

120. (C) GRIHA
Most green building rating systems use specific words or medals like Silver, Gold, or Platinum to indicate their certification levels. These names are common across many different international frameworks. However, the national rating system for India uses a different approach, relying on a numerical star rating instead. This star-based nomenclature is unique to this system and helps set it apart from other frameworks. Understanding these conventions is important for professionals.

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typically managed according to standard municipal law?
(A) The State Government permanently supersedes the Municipal Corporation and hands over all administrative powers to the District Collector.
(B) The Municipal Commissioner immediately absorbs all executive and deliberative powers of the Mayor for the remainder of the term.
(C) The Speaker presides, or an interim Mayor is appointed until a formal by-election.
(D) The Mayor-in-Council automatically dissolves, and all elected councillors are suspended pending a high court judicial inquiry.

25. How many specific functional domains are enumerated in the 12th Schedule of the Constitution of India for devolution to Urban Local Bodies?
(A) 11 functions
(B) 18 functions
(C) 24 functions
(D) 29 functions

26. Consider the following statements regarding the functions of the Town and Country Planning (TCP) Department in Madhya Pradesh:
1. It is responsible for the preparation of Regional Plans and Development Plans (Master Plans).
2. It functions under the statutory provisions of the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973.
3. It directly undertakes physical construction of large-scale affordable housing projects in cities.
4. It scrutinizes and grants layout approvals for town planning schemes.

Which of the above statements are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

27. Under the MPTGNP Act, 1973, which body is explicitly constituted to implement the Development Plan and execute town planning schemes in major cities of Madhya Pradesh?
(A) District Urban Development Agency (DUDA)
(B) Area Development Authority (e.g., IDA, BDA)
(C) State Finance Commission
(D) Town and Country Planning Directorate

28. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The proliferation of parastatal agencies like Development Authorities is often criticized for creating a "democratic deficit" in urban governance.
Reason (R): Parastatal agencies are usually managed by unelected bureaucrats and technical experts, making them less directly accountable to the local electorate compared to Municipal Corporations.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

29. Which of the following statements correctly highlights the constitutional mandate regarding the Metropolitan Planning Committee (MPC)?
(A) Article 243ZE mandates MPCs in metropolitan areas to draft regional development plans.
(B) The Constitution requires that every member of an MPC must be personally nominated by the Chief Minister of the respective state.
(C) The MPC is mandated only for urban agglomerations with a population strictly below ten lakhs to ensure localized planning.
(D) The MPC completely replaces the elected Municipal Corporations and exercises all their executive and legislative powers.

30. Match the following lists regarding institutional entities in Madhya Pradesh and their mandates:
List I: (Institutional Entity in MP)
P. DUDA
Q. MPUDC
R. MP Housing Board
S. TCP Department
List II: (Primary Mandate)

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Q. Smaller Urban Area
R. Larger Urban Area
S. Industrial Township

List II: (Constitutional Provision/Feature)
1. Municipal Corporation
2. Exemption from standard municipality constitution
3. Nagar Panchayat
4. Municipal Council

(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-4, R-3, S-2

7. Given below are two statements regarding the State Finance Commission (SFC):
Statement I: The SFC recommends the principles that should govern the distribution of net proceeds of taxes, duties, and tolls between the State and the municipalities.
Statement II: The recommendations made by the State Finance Commission are absolute and legally binding upon the State Government without any requirement for legislative approval.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

8. Arrange the following milestones in the evolution of urban governance and planning institutional systems in chronological order:
1. Enactment of the 74th Constitutional Amendment Act.
2. Launch of the Atal Mission for Rejuvenation and Urban Transformation (AMRUT).
3. Enactment of the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam.
4. Launch of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM).

(A) 3-1-4-2
(B) 1-3-4-2
(C) 3-1-2-4
(D) 1-4-3-2

9. An Urban Local Body in Madhya Pradesh is suddenly dissolved by the State Government due to alleged financial irregularities. If the remaining term of the dissolved municipality was exactly five months, which of the following actions is legally appropriate as per constitutional provisions?
(A) An immediate election must be conducted within a period of three months to reconstitute the municipality for a full five-year term.
(B) A fresh election must be held within six months to specifically reconstitute the body for the remaining five-month duration.
(C) The Governor must appoint a parallel interim council to serve as the governing body for the next three calendar years.
(D) No election is necessary, and the body remains under administration for the remainder of the term.

10. What is the precise definition of a "Metropolitan area" under Article 243P of the Constitution of India?
(A) An area with ten lakh plus population, in one or more districts, notified as such by the Governor.
(B) An area having a population of five lakhs or more, functioning exclusively under the jurisdiction of a single Municipal Corporation.
(C) Any urban agglomeration exceeding a population of three lakhs that contributes significantly to the annual state revenue.
(D) A contiguous urban area containing a minimum of three distinct municipalities regardless of the total combined population.

11. Which of the following is NOT typically a function of the elected Ward Committees in a Municipal Corporation?
(A) Supervising solid waste management and sanitation efforts at the neighborhood level.
(B) Appointing the Municipal Commissioner and technical staff.
(C) Assisting in the preparation and review of comprehensive ward-level development plans.
(D) Encouraging active public participation in the delivery of various local civic services.

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handles urban solid waste management in metropolitan cities.
(D) State Finance Commission - Recommends tax devolution models for local bodies.

37. Which of the following best explains why Metropolitan Planning Committees (MPCs) have seen significant gaps in implementation across Indian states?
(A) State governments lack the political will to devolve planning powers to elected MPCs.
(B) They are legally prohibited from consulting with the Central Government regarding any form of infrastructure funding.
(C) The Constitution strictly limits MPCs to functioning only in rural areas adjacent to large cities to prevent overlap.
(D) The 74th Amendment explicitly makes the formation of MPCs an optional rather than a mandatory requirement for states.

38. Consider the following statements regarding the governance structure of Smart City SPVs in Madhya Pradesh:
1. The SPV is structured as a Limited Company under the Companies Act.
2. The Board of Directors must have equal equity participation from the Central Government and the respective ULB only, excluding the State Government.
3. The SPV possesses operational autonomy to mobilize resources through municipal bonds.
4. The CEO of the SPV is typically an appointed bureaucratic officer rather than an elected official.

Which of the above statements are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

39. The Madhya Pradesh Urban Development Company (MPUDC) primarily acts as the nodal agency for implementing which type of urban projects?
(A) Directly managing the state's rural electrification schemes in collaboration with energy departments.
(B) Implementing projects funded by multilateral agencies like the World Bank and ADB.
(C) Administering state-level agricultural subsidies to small and marginal farmers across the region.
(D) Handling the internal administrative transfers of municipal staff within the Urban Development department.

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40. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): District Urban Development Agencies (DUDAs) often face challenges in coordinating large-scale urban infrastructure projects like metro rail networks.
Reason (R): DUDAs were primarily conceptualized to administer and coordinate urban poverty alleviation and livelihood generation programs rather than heavy engineering infrastructure.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

41. Identify the correct pair regarding decentralization concepts:
(A) Administrative Delegation - Permanent constitutional transfer of law-making powers to a private entity.
(B) Fiscal Decentralization - Concentration of all tax collection powers at the Central Government level.
(C) Privatization - Merging of all parastatal agencies into the State Government departments.
(D) Political Decentralization - Transfer of public authority to an autonomous lower level of elected government.

42. Match the following lists regarding decentralization concepts and descriptions:
List I: (Decentralization Concept)
P. Devolution
Q. Delegation
R. Deconcentration
S. Privatization
List II: (Description)

R. Metropolitan Planning Committee
S. Municipal Council

List II: (Associated Function)

1. Consolidates rural and urban plans at the district level
2. Recommends principles for devolution of funds
3. Deliberates and passes the local civic budget
4. Prepares draft development plans for metro regions

(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-4, S-2

19. Given below are two statements regarding the functional distinction in Urban Local Bodies (ULBs):

Statement I: The planning function of a ULB involves the preparation of long-term spatial development plans and master plans.

Statement II: The regulatory function of a ULB includes the enforcement of building bye-laws and issuing construction permissions.

Which of the following is correct?

(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

20. Which of the following statements regarding the role of parastatal agencies in urban development is INCORRECT?

(A) Parastatal agencies are statutory or state-sponsored bodies created to handle specialized functions like housing and infrastructure.
(B) Water supply and sewerage boards operating as parastatals often bypass the direct democratic control of elected ULBs.
(C) Development Authorities, as parastatals, typically derive their powers directly from the 74th Constitutional Amendment Act.
(D) Housing Boards are parastatal agencies focused on developing residential estates and schemes across various cities.

21. As a Town Planner, you are tasked with advising a newly elected Mayor on optimizing a municipality's financial autonomy. Which competency-based strategy aligns best with the principle of fiscal decentralization?

(A) Expanding the tax base through GIS assessment and rationalizing user charges.
(B) Relying entirely on discretionary grants provided by the State Government to fund the municipality's daily operational costs.
(C) Requesting the State Government to take over the solid waste management function to reduce overall municipal expenditure burdens.
(D) Surrendering the statutory power to levy advertisement and entertainment taxes to the Central or State Finance Departments.

22. What defines the "ex-officio" membership in the context of Metropolitan Planning Committees (MPCs)?

(A) Members who are appointed directly by the Governor based on their expertise in urban planning.
(B) Members who are elected specifically through a universal adult franchise solely for the MPC.
(C) Members representing international funding agencies providing financial assistance to the metropolitan area.
(D) Members who hold a position on the committee automatically by virtue of holding another specific public office.

23. Which of the following is NOT an institution functioning under the urban planning and governance framework of Madhya Pradesh?

(A) Madhya Pradesh Urban Development Company (MPUDC)
(B) Madhya Pradesh Rural Roads Development Authority (MPRRDA)
(C) Directorate of Urban Administration and Development (DUAD)
(D) Madhya Pradesh Nagar Tatha Gram Nivesh (MPTGNP)

24. In an event where the elected Mayor of a Municipal Corporation in Madhya Pradesh abruptly resigns, causing a governance vacuum, how is the immediate administrative continuity

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CHAPTER 16

Urban Governance and Institutional Systems

1. Under the 74th Constitutional Amendment Act, what is the mandatory demographic threshold required for the constitution of a Ward Committee in a municipality?
(A) Population of one lakh or more
(B) Population of two lakhs or more
(C) Population of three lakhs or more
(D) Population of five lakhs or more

2. Consider the following statements regarding the provisions of the 74th Constitutional Amendment Act 1992:
1. It provides for the reservation of seats for Scheduled Castes and Scheduled Tribes in every municipality in proportion to their population.
2. It mandates the establishment of a District Planning Committee to consolidate plans prepared by panchayats and municipalities.
3. It stipulates a fixed tenure of five years for all municipalities, with elections to be held within one year of dissolution.
4. It requires the state legislature to authorize municipalities to levy, collect, and appropriate specific taxes.

Which of the above statements are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

3. According to the Madhya Pradesh Municipal Corporation Act 1956, which authority is primarily responsible for framing the administrative and financial rules governing the functioning of the Mayor-in-Council?
(A) The State Government of Madhya Pradesh
(B) The Municipal Commissioner
(C) The Directorate of Urban Administration and Development
(D) The State Finance Commission

4. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The State Election Commission is vested with the power of superintendence, direction, and control of the preparation of electoral rolls for all municipalities.
Reason (R): Urban Local Bodies are sovereign entities completely independent of the State Government in matters of electoral delimitation and ward boundary alterations.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

5. Which of the following statements is correct regarding the structure of Urban Local Bodies as mandated by the Constitution of India?
(A) A Municipal Council is established for a smaller urban area as notified by the Governor.
(B) A Nagar Panchayat is specifically constituted to manage a large urban area transitioning into a major metropolitan city.
(C) The Governor is legally prohibited from declaring industrial townships as areas exempted from having a standard municipal body.
(D) The Members of the Legislative Assembly representing the local area cannot be granted any form of representation in the municipality.

6. Match the following lists regarding urban areas and features:
List I: (Type of Urban Area/Body)
P. Transitional Area

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1. Preparation of statutory Master Plans
2. Execution of externally aided urban infrastructure projects
3. Coordination of poverty alleviation programs at the district level
4. Provision of affordable residential plots and built-up accommodations

(A) P-3, Q-2, R-4, S-1
(B) P-2, Q-3, R-1, S-4
(C) P-3, Q-4, R-2, S-1
(D) P-1, Q-2, R-4, S-3

31. Given below are two statements regarding the 12th Schedule of the Constitution:
Statement I: The 12th Schedule explicitly makes it legally binding for state governments to instantly transfer all 18 listed functions to the Urban Local Bodies.
Statement II: The devolution of functions listed in the 12th Schedule is at the discretion of the state legislature, resulting in varied degrees of decentralization across states.
Which of the following is INCORRECT?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

32. Arrange the following spatial planning instruments according to their hierarchical preparation process as typically mandated by the MPTGNP Act, 1973:
1. Preparation of Zonal Development Plan
2. Declaration of Planning Area
3. Preparation of Regional Plan
4. Preparation of Development Plan (Master Plan)

(A) 3-2-4-1
(B) 2-3-4-1
(C) 3-4-2-1
(D) 2-4-1-3

33. A medium-sized city in Madhya Pradesh is selected under the Smart Cities Mission. To ensure rapid project execution, financial ring-fencing, and private sector participation, which institutional mechanism is most appropriate to establish?
(A) A newly established Standing Committee within the existing Municipal Corporation framework.
(B) A Special Purpose Vehicle (SPV) incorporated under the Companies Act.
(C) A traditional parastatal Development Authority managed by the state's urban department.
(D) A dedicated sub-department within the District Collectorate for urban transformation.

34. What defines a "Special Purpose Vehicle" (SPV) in the context of the Smart Cities Mission in India?
(A) A purely advisory committee comprising local NGOs and elected councillors to suggest smart infrastructure projects to the state.
(B) A transport division of the Municipal Corporation responsible for deploying and maintaining a fleet of electric buses.
(C) A foreign direct investment fund exclusively managed by the Central Government for national-scale urban renewal initiatives.
(D) A limited company promoted by State/ULB under the Companies Act to implement projects.

35. Which of the following is NOT one of the 18 functions listed in the 12th Schedule of the Constitution of India?
(A) Law and order and police administration.
(B) Urban planning including comprehensive town planning and regulation.
(C) Fire services and emergency management for the urban population.
(D) Slum improvement and the upgradation of informal urban settlements.

36. Identify the INCORRECT pair regarding urban institutions and their typical characteristics:
(A) Development Authority - Primarily focused on land acquisition, plotting, and infrastructure development.
(B) Smart City SPV - Functions with a Board of Directors often chaired by the Divisional Commissioner or Collector.
(C) District Planning Committee - Exclusively

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the Public Health Engineering Department (PHED) to the council while retaining them on the state payroll. This scenario is an example of:
(A) Complete Devolution of constitutional authority.
(B) Direct Democratic Decentralization of power.
(C) Administrative Delegation or Deputation.
(D) Privatization of technical service delivery.

49. What is the fundamental distinction between "Devolution" and "Delegation" in urban governance administration?
(A) Devolution requires significant constitutional amendments, whereas Delegation is exclusively handled by the Central Government.
(B) Devolution transfers authority to independent ULBs; Delegation transfers tasks to subordinates.
(C) Devolution implies transferring financial powers to private entities, whereas Delegation means transferring political power.
(D) Devolution occurs primarily at the district level, whereas Delegation only occurs at the ward level within a municipality.

50. Consider the following statements regarding the implementation of GIS-based property tax assessment in urban local bodies:
1. It helps in identifying unassessed and under-assessed properties by overlaying spatial data with municipal tax records.
2. It completely replaces the need for municipal valuation of property by automatically fixing the tax based solely on satellite imagery.
3. It increases transparency and improves the tax collection efficiency of the ULB.
4. It is one of the key reforms incentivized under the AMRUT mission.

Which of the above statements are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

51. In the context of Madhya Pradesh, what role does the District Collector typically play in urban governance?
(A) Coordinates departments, bridges state-ULB relations, and may head the SPV board.
(B) The Collector serves as the ex-officio Mayor of the Municipal Corporation, exercising all political and financial powers.
(C) The Collector holds the exclusive power to draft the urban master plan, completely superseding the state TCP department.
(D) The Collector is completely detached from all urban matters and focuses exclusively on rural panchayat administration.

52. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Mere political decentralization through regular municipal elections is insufficient to achieve effective urban local governance.
Reason (R): Without adequate fiscal decentralization and transfer of trained functionaries, ULBs remain dependent on higher tiers of government, undermining their functional autonomy.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

53. Which of the following statements correctly describes the concept of 'Ring-fencing' in the context of urban utility services (e.g., water supply)?
(A) Maintaining separate accounts to reinvest utility revenues back into that service.
(B) Erecting physical security fences around water treatment plants to prevent trespassing by unauthorized individuals.
(C) Restricting the supply of water exclusively to metropolitan boundaries while excluding peri-urban settlements.
(D) Outsourcing the entire utility service management to a foreign corporate entity for a fixed long-term period.

54. Match the following lists regarding missions and key features:
List I: (Reforms/Missions)
P. AMRUT

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1. Transfer of decision-making authority to lower administrative levels within the same central ministry.
2. Transfer of specific operational tasks to semi-autonomous agencies, which remain accountable to the principal authority.
3. Transfer of functions and resources to independent, elected local governments.
4. Transfer of service delivery responsibilities to non-governmental commercial entities.

(A) P-3, Q-2, R-1, S-4
(B) P-2, Q-3, R-1, S-4
(C) P-3, Q-1, R-2, S-4
(D) P-1, Q-2, R-3, S-4

43. Given below are two statements regarding the relationship between the State Government and Urban Local Bodies (ULBs):
Statement I: Activity mapping is an essential administrative tool used to clearly delineate the specific roles of the State, parastatals, and ULBs in delivering decentralized functions.
Statement II: In Madhya Pradesh, activity mapping has completely eliminated the overlapping of jurisdictions between the Town and Country Planning Department and the ULBs.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

44. Which of the following statements regarding urban sector reforms under AMRUT (Atal Mission for Rejuvenation and Urban Transformation) is INCORRECT?
(A) AMRUT emphasizes mandatory reforms such as the constitution of a professional municipal cadre.
(B) AMRUT strictly prohibits the levying of user charges for water supply and sewerage services by ULBs.
(C) Implementing a GIS-based property tax system is considered a key capacity-building reform under AMRUT.
(D) The mission aims to ensure that every household has access to a tap with an assured supply of water.

45. While preparing a decentralized budget for a Municipal Council, you discover that the cost of solid waste management far exceeds revenue. Applying fiscal decentralization principles, what is the most sustainable corrective measure?
(A) Implementing a user charge system to recover operation and maintenance costs.
(B) Diverting large capital funds from the central smart city pool to cover daily revenue deficits indefinitely.
(C) Dissolving the municipal solid waste department and relying strictly on direct state government intervention.
(D) Decreasing local property tax rates to appease citizens while hoping for significant voluntary donations.

46. What does "Activity Mapping" mean in the context of decentralization and urban governance?
(A) The physical GPS mapping of urban infrastructure assets to ensure they are visible on municipal dashboards.
(B) The tracking of daily attendance of municipal staff using biometric devices to ensure administrative efficiency.
(C) Systematic assignment of functions, staff, and funds across tiers of government.
(D) The zoning of commercial and residential activities in a master plan to determine land use and tax rates.

47. Which of the following is NOT generally a source of "Own Source Revenue" (OSR) for an Urban Local Body?
(A) Property tax collected from residential and commercial owners.
(B) Advertisement tax levied on hoardings and digital displays.
(C) Building permission fees charged for new constructions.
(D) State Finance Commission devolution grants.

48. A local municipal council is facing severe capacity gaps in handling a complex water treatment plant project. The state government temporarily transfers technical engineers from

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12. Identify the INCORRECT pair regarding the executive wing officials and their primary administrative domain in Urban Local Bodies:
(A) Municipal Commissioner - Chief Executive of a Municipal Corporation
(B) City Engineer - Financial auditing and allocation of state grants
(C) Chief Municipal Officer - Executive head of a Municipal Council or Nagar Panchayat
(D) Health Officer - Public health, sanitation, and solid waste management

13. Which of the following best describes the structural dynamic between the elected Mayor and the appointed Municipal Commissioner in an Indian Municipal Corporation?
(A) The Mayor leads policy formulation, while the Commissioner wields statutory executive powers for implementation.
(B) The Mayor holds supreme executive authority, and the Commissioner functions merely in an advisory capacity without any statutory powers.
(C) The Commissioner is subordinate to the Mayor and requires the Mayor's signature for all routine administrative orders and staff transfers.
(D) The Mayor and the Commissioner hold equal veto powers over every resolution passed by the deliberative wing of the Municipal Council.

14. Consider the following statements regarding the powers and functions of the Mayor-in-Council (MIC) in Madhya Pradesh:
1. It acts as the primary executive committee of the Municipal Corporation.
2. It has the authority to sanction financial estimates for major infrastructure projects up to a specified limit.
3. It possesses the quasi-judicial power to dissolve the Municipal Corporation unilaterally.
4. It is strictly composed of technocrats appointed by the State Government.

Which of the above statements are correct?
(A) 1 and 2
(B) 2 and 3
(C) 1, 3 and 4
(D) 1 and 4

15. In the context of Madhya Pradesh, which specific piece of legislation exclusively governs the constitution, functions, and administration of Nagar Panchayats and Municipal Councils?
(A) Madhya Pradesh Municipal Corporation Act, 1956
(B) Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973
(C) Madhya Pradesh Panchayati Raj Avam Gram Swaraj Adhiniyam, 1993
(D) Madhya Pradesh Municipalities Act, 1961

16. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The 74th Constitutional Amendment ensures the democratic continuity of Urban Local Bodies by restricting their arbitrary dissolution.
Reason (R): It mandates that elections to constitute a municipality must be completed before the expiration of its duration or before the expiration of a period of six months from the date of its dissolution.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

17. Identify the correct pair regarding urban governance structures:
(A) Standing Committee - A purely temporary body formed for addressing sudden disaster management tasks in urban areas.
(B) Mayor-in-Council - The primary deliberative and executive cabinet system.
(C) Ward Committee - An unelected body of state-appointed technical experts who manage local infrastructure and drainage.
(D) State Election Commission - The body responsible for delimiting state assembly constituencies and parliamentary seats.

18. Match the following lists regarding governance bodies and their associated functions:
List I: (Governance Body/Role)
P. State Finance Commission
Q. District Planning Committee

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Q. Smart Cities Mission
R. Swachh Bharat Mission (Urban)
S. JNNURM

List II: (Key Feature/Objective)

1. Creation of SPVs and Area-Based Development
2. Focus on basic infrastructure like water supply, sewerage, and green spaces
3. ODF+ and ODF++ certification protocols
4. Early mandate for repealing the Urban Land Ceiling Act as an optional reform

(A) P-2, Q-1, R-3, S-4
(B) P-1, Q-2, R-4, S-3
(C) P-2, Q-3, R-1, S-4
(D) P-4, Q-1, R-3, S-2

55. Given below are two statements regarding the decentralization of solid waste management (SWM):

Statement I: Decentralized SWM involves treating organic waste at the source or neighborhood level to reduce the transportation burden on the central landfill.

Statement II: The Indore model of cleanliness relies purely on centralizing all waste without any source segregation at the household level.

Which of the following is correct?

(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

56. Arrange the typical procedural steps involved in establishing a GIS-based property tax system in a municipality in chronological order:

1. Conducting a drone or satellite spatial survey of the city.
2. Integrating the spatial data with the existing property tax database.
3. Conducting ground-truthing and physical verification of mismatched records.
4. Issuing revised tax demand notices based on the updated assessment.

(A) 1-2-3-4
(B) 2-1-3-4
(C) 1-3-2-4
(D) 3-1-2-4

57. As the Commissioner of a municipal corporation, you are planning to decentralize the water utility service to improve efficiency. Which application of decentralization is most appropriate?

(A) Handing over complete ownership of water resources to a private monopoly without any form of state regulation.
(B) Transferring the technical planning of new dams and reservoirs entirely to the Central Government departments.
(C) Removing all water user charges for residents to increase public satisfaction and gain political popularity.
(D) Delegating ward-level operation and maintenance to associations while the ULB retains tariff regulation.

58. What does "Capacity Gap" refer to in the context of Urban Local Bodies?

(A) The shortfall in expertise, funds, and staff required to perform municipal tasks.
(B) The physical limitation of the municipal office building which prevents administrative hiring.
(C) The legal inability of the state to conduct municipal elections on time due to litigations.
(D) The lack of population required to qualify as a Municipal Corporation under the 74th Amendment.

59. Which of the following is NOT typically a capacity-building measure undertaken by state governments to strengthen Urban Local Bodies (ULBs)?

(A) Organizing training programs for municipal engineers on GIS applications.
(B) Withdrawing the power of ULBs to levy property taxes.
(C) Creating a centralized municipal administrative cadre.
(D) Facilitating peer-to-peer learning between well-performing and struggling cities.

60. Identify the INCORRECT pair regarding urban governance roles in Madhya Pradesh:

(A) Town and Country Planning (TCP) - Statutory spatial planning and zoning.
(B) Madhya Pradesh Pollution Control Board (MPPCB) - Formulation of the municipal budget.

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(C) Public Health Engineering Department (PHED) - Water supply scheme execution.
(D) Development Authorities - Urban land pooling and plotting schemes.

61. What is widely considered the most critical capacity gap hindering the effective functioning of smaller Nagar Panchayats in Madhya Pradesh?
(A) Shortage of technically qualified urban planners and specialized administrative staff.
(B) Lack of formal constitutional recognition under various state and central laws.
(C) The over-representation of parastatal agencies within their small local jurisdiction.
(D) The complete absence of elected representatives in the local council body.

62. Consider the following statements regarding the governance model of Indore Municipal Corporation (IMC) contributing to its cleanest city status:
1. It enforced strict 100% door-to-door waste collection with multi-bin segregation at the source.
2. It established a robust biometric attendance and GPS-tracking system for sanitary workers and garbage collection vehicles.
3. It completely outsourced solid waste management to an unregulated private monopoly without municipal oversight.
4. It implemented a spot-fine system to penalize littering and ensure civic discipline.

Which of the above statements are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 1, 2 and 4
(D) 2, 3 and 4

63. In the context of Madhya Pradesh, the "Bhopal Development Authority" (BDA) functions primarily under the administrative control of which state department?
(A) State Department of Rural Development and Panchayati Raj.
(B) Public Works Department of the Government of Madhya Pradesh.
(C) Revenue Department handling land records and acquisitions.
(D) Urban Development and Housing Department (UDHD).

64. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Property tax remains the most under-exploited source of revenue for many Indian Urban Local Bodies.
Reason (R): Poor coverage, outdated valuation methods, exemptions, and lack of political will to revise rates contribute to low collection efficiency.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. Identify the correct pair regarding the key administrative figures in the urban governance of Madhya Pradesh:
(A) Divisional Commissioner - Acts exclusively as the head of the State Election Commission for municipal polls.
(B) District Collector - Nodal officer for coordinating land and revenue for urban projects.
(C) Mayor - The primary head of the State Finance Commission responsible for determining tax devolution ratios.
(D) Municipal Commissioner - An elected official heading the Ward Committees and presenting the local budget.

66. Match the following lists regarding institutional components and attributes in Madhya Pradesh:
List I: (Institutional Component in MP)
P. BHEL Township (Bhopal)
Q. IDA (Indore)
R. Nagar Panchayat
S. Smart City SPV
List II: (Core Attribute)
1. Industrial township governance model
2. Parastatal agency for spatial expansion
3. Transitional area local body
4. Ring-fenced corporate governance
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-3, R-2, S-4

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(D) P-3, Q-4, R-1, S-2

67. Given below are two statements regarding the tension between elected and technocratic governance in cities:
Statement I: The creation of Smart City SPVs headed by technocrats and bureaucrats has sometimes led to friction with elected Mayors over control of urban projects.
Statement II: Technocratic governance prioritizes democratic deliberation and prolonged public debates over speedy project execution.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

68. Which of the following statements regarding AMRUT cities in Madhya Pradesh is INCORRECT?
(A) Cities with a population of one lakh and above are generally included as AMRUT cities.
(B) The mission focuses on creating infrastructure for water supply, sewerage, and non-motorized urban transport.
(C) AMRUT bypasses the State Government and directly releases funds to the accounts of Ward Councillors.
(D) Implementation structures require the preparation of State Annual Action Plans (SAAP).

69. As a planner dealing with overlapping jurisdictions in Bhopal, you must resolve a conflict between a proposed BRTS corridor by the SPV and a heritage conservation zone demarcated by the Urban Local Body (ULB). Which competency best ensures institutional harmony?
(A) Forming a Joint Committee (SPV, ULB, TCP) to align BRTS with heritage norms.
(B) Unilaterally overriding the ULB's heritage zone using SPV corporate powers and police enforcement.
(C) Halting the project permanently and returning all allocated funds to the central government.
(D) Transferring the heritage zone to the rural panchayat jurisdiction to bypass urban regulations.

70. What defines "Data Governance" in the context of the MP Urban Observatory?
(A) The physical storage of paper records in municipal archives for historical and legal purposes.
(B) The process of deleting historical census data to save server space in the central data center.
(C) The privatization of citizen data to international advertising agencies for commercial gain.
(D) Framework for standards and protocols to manage and share urban data across departments.

71. Which of the following is NOT a mechanism typically used to address multi-agency coordination challenges in urban projects?
(A) Single Window Clearance Systems for various building permits.
(B) Formal Memoranda of Understanding (MoUs) signed between agencies.
(C) Project Steering Committees chaired by senior bureaucrats.
(D) Creating informational silos to prevent data sharing.

72. A newly upgraded Municipal Council in Madhya Pradesh struggles to provide basic amenities due to poor own-source revenue. An analysis reveals that out of 50,000 households, only 15,000 are in the tax net. Which strategic intervention is most appropriate?
(A) Abolishing the property tax system entirely to favor citizen welfare.
(B) Requesting the State Government to downgrade the body back to a Gram Panchayat.
(C) Launching a GIS/drone survey to identify and integrate unassessed properties.
(D) Taking an uncollateralized loan from an international bank to cover operating expenses.

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73. The "Trenching Ground" transformation in Indore is a renowned example of which urban governance success?
(A) Converting a historic font into a commercial hub for high-end retail and tourism.
(B) Constructing an elevated metro rail corridor to connect the airport with the city center.
(C) Privatizing urban water bodies for large-scale luxury real estate development.
(D) Bioremediation of a legacy landfill into a forest and processing facility.

74. Consider the following statements regarding the governance structure of Bhopal Municipal Corporation (BMC):
1. The BMC is governed by the Madhya Pradesh Municipal Corporation Act, 1956.
2. The Mayor of BMC is elected directly by the public.
3. The BMC operates independently of the Urban Development and Housing Department (UDHD) of MP.
4. It constitutes specialized standing committees to handle functions like public works and health.

Which of the above statements are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 1, 3 and 4
(D) 2, 3 and 4

75. What is the primary role of the Madhya Pradesh Urban Observatory?
(A) To visually monitor all traffic violations through a network of CCTV cameras and AI systems.
(B) Collecting and analyzing urban data to aid evidence-based policymaking.
(C) To function as the final appellate authority for all property tax disputes across the state.
(D) To track astronomical events for state agricultural planning and festive calendar management.

76. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Indore has consistently ranked as India's cleanest city under the Swachh Survekshan framework.
Reason (R): The Indore Municipal Corporation effectively implemented strong political will, strict administrative enforcement, and robust solid waste management infrastructure.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

77. Which of the following statements correctly differentiates between the Bhopal Municipal Corporation (BMC) and the Bhopal Development Authority (BDA)?
(A) BMC is an elected body for civic amenities; BDA is a parastatal for land and housing.
(B) BMC handles regional master planning and zoning, while BDA handles daily waste collection.
(C) BMC operates under the Companies Act, whereas BDA operates strictly under the 74th Amendment.
(D) BDA is headed by an elected Mayor, while BMC is headed by a state-appointed Chairman.

78. Match the following lists regarding institutional entities in Madhya Pradesh and their administrative focus:
List I:
P. MPUDC
Q. DUDA
R. UDHD
S. MPPCB
List II:
1. General administrative control of Urban Local Bodies
2. Environmental regulatory compliance
3. External funding for urban infrastructure
4. Implementation of urban poverty programs
(A) P-3, Q-4, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-4, S-3

79. Given below are two statements regarding the Divisional Commissioner's role in urban governance in Madhya Pradesh:
Statement I: The Divisional Commissioner often plays a crucial coordination role between

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various development authorities, ULBs, and police within the division.
Statement II: The Divisional Commissioner is the primary authority responsible for preparing the technical Zonal Plans for municipal wards.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

80. Arrange the typical institutional steps for notifying and finalizing a Master Plan under the MPTGNP Act in chronological order:
1. Constitution of a Planning Area.
2. Publication of the Draft Development Plan for public objections and suggestions.
3. Conducting existing land-use surveys and base map preparation.
4. Final approval and notification of the Development Plan by the State Government.

(A) 1-3-2-4
(B) 3-1-2-4
(C) 1-2-3-4
(D) 3-2-1-4

81. A rapidly urbanizing Nagar Panchayat in Madhya Pradesh wishes to replicate success in solid waste management but lacks financial capital for large plants. What is the most viable initial application for this smaller town?
(A) Wait for international funding to build a massive centralized waste-to-energy plant.
(B) Focus on behavior change, source segregation, and decentralized composting.
(C) Transport all waste directly to Indore city for processing at their facilities.
(D) Abolish the SWM department and rely on informal ragpickers to manage the waste stream.

82. What does "Technocratic governance" imply in the context of modern urban development missions?
(A) Governance driven predominantly by political populism and frequent local municipal elections.
(B) Governance structured around experts, data, and bureaucrats, often in Special Purpose Vehicles.
(C) Governance that relies exclusively on traditional rural panchayat methods and oral traditions.
(D) Governance that is strictly managed by uneducated local volunteers without any state oversight.

83. Which of the following is NOT typically a function of the Madhya Pradesh Town and Country Planning (TCP) Department?
(A) Direct collection of property taxes from urban households.
(B) Formulating regional and city development plans.
(C) Providing technical advice to the state government on urbanization policies.
(D) Examining and approving layout plans for large real estate projects.

84. Identify the INCORRECT pair regarding coordination issues in urban planning:
(A) Overlapping Jurisdictions - Multiplicity of authorities handling similar tasks.
(B) Utility Shifting - Delays caused by lack of coordination between road authorities and utilities.
(C) Single Window Clearance - A bureaucratic bottleneck designed to maximize distinct approvals.
(D) Land Acquisition - Friction between urban development needs and revenue procedures.

85. In a Smart City project, the SPV CEO wishes to demolish an old market for a smart road, but the elected Mayor strongly opposes it citing local livelihoods. What is the most appropriate institutional mechanism to resolve such tensions?
(A) Issue discussed in a Steering Committee or Advisory Forum for negotiated solutions.
(B) The CEO uses corporate authority to deploy police forces and bypass the Mayor.
(C) The Mayor dissolves the SPV unilaterally under the 74th Constitutional Amendment.
(D) The project is immediately shifted to another city without any formal review.

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86. Consider the following statements regarding governance challenges in smaller towns (Nagar Panchayats):
1. They often suffer from a severe shortage of technical staff like urban planners and engineers.
2. Their own-source revenue base is extremely robust, often exceeding that of Municipal Corporations.
3. They rely heavily on state grants and devolution for meeting operational expenses.
4. They frequently struggle to implement complex infrastructure projects like underground sewerage.

Which of the above statements are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

87. In Madhya Pradesh, the administrative boundary for urban functions is often split between the Urban Development and Housing Department (UDHD) and the TCP Department. Which of the following correctly describes this division?
(A) UDHD handles spatial planning and zoning, while TCP manages daily municipal administration.
(B) UDHD oversees municipal administration/ housing; TCP is for spatial planning/land use.
(C) UDHD exclusively manages rural areas, while TCP manages smart cities.
(D) Both departments have identical mandates and act as direct competitors.

88. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The Single Window Clearance system simplifies the building permission process for real estate developers.
Reason (R): It consolidates approvals required from multiple uncoordinated agencies into a unified digital portal.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

89. Identify the correct pair regarding multi-agency coordination in Madhya Pradesh:
(A) MPEB - Responsible for granting mandatory environmental clearances for new townships.
(B) SEIAA - Manages the state's public transport fleet and urban traffic light systems.
(C) Revenue Department - Responsible for preparing the statutory city-level Master Plan.
(D) PHED - Responsible for bulk water infrastructure and ULB coordination.

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90. Match the following lists regarding utility agencies and their coordination roles:
List I: (Utility/Agency)
P. MPEB
Q. MPPCB
R. PWD
S. Revenue Department
List II: (Coordination Role in Planning)
1. Clearance for consent to establish and operate
2. Shifting of high-tension electrical lines for road widening
3. Transfer of government land and acquisition procedures
4. Alignment of state highways passing through municipal limits
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-4, S-2

91. Given below are two statements regarding scheme convergence in urban development:
Statement I: Convergence aims to integrate funds and efforts from various central and state schemes in a targeted area to maximize impact.
Statement II: Scheme convergence explicitly forbids multiple departments from working on the same project site.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is

incorrect.
(D) Statement I is incorrect but Statement II is correct.

92. Which of the following statements regarding the coordination of Environmental Clearances for large urban projects is INCORRECT?
(A) Large-scale township and area development projects require clearance under the EIA Notification 2006.
(B) Urban Local Bodies possess the absolute sovereign authority to waive off all national environmental clearances.
(C) The MP Pollution Control Board (MPPCB) plays a vital role in monitoring air and water compliance.
(D) Coordination is required between the MoEF&CC, SEIAA, and the development authority.

93. A new flyover is proposed by the Public Works Department (PWD) in the heart of the city, but the alignment requires shifting water pipelines (PHED), felling trees (Forest Dept), and land acquisition (Revenue Dept). What is the best institutional mechanism to handle this efficiently?
(A) Multi-Departmental Project Steering Committee to resolve shifting and acquisition.
(B) Proceeding with construction immediately and handling legal disputes in civil courts.
(C) Canceling the project entirely and building an expensive underground tunnel instead.
(D) Outsourcing all coordination tasks to a private contractor without bureaucratic backing.

94. What is the precise definition of "Intergovernmental Fiscal Transfers"?
(A) The movement of money strictly between private corporate entities operating in the urban sector.
(B) The collection of mandatory user charges from citizens by the municipality for basic services.
(C) Transfer of funds from Center/State to ULBs via grants, shared taxes, or loans.
(D) The remittance of foreign funds by international NGOs for urban renewal initiatives.

95. Which of the following is NOT typically a conditionality attached to performance-based grants given to ULBs under urban missions?
(A) Achieving a designated improvement in property tax collection over a fixed fiscal period.
(B) Full implementation of robust e-governance systems for all municipal service deliveries.
(C) Regular auditing and annual publication of municipal financial statements.
(D) Mandating that employees belong to a specific political party.

96. A Development Authority announces a housing scheme on the city's periphery that falls outside municipal limits but within the planning area. The Authority constructs the layout but struggles with maintenance. What is the standard institutional resolution?
(A) The Authority declares total independence and forms a new sovereign city.
(B) The TCP department takes over the daily sweeping and streetlighting of the colony.
(C) MoU signed for formal colony handover to the nearest Urban Local Body for civic maintenance.
(D) The entire housing scheme is abandoned by the authority and eventually demolished.

97. What is the fundamental purpose of a "Memorandum of Understanding (MoU)" between a Development Authority and an Urban Local Body (ULB)?
(A) To provide a legal basis for the state to permanently dissolve the elected ULB.
(B) Formalize cooperation, asset handover, or cost-sharing for joint urban projects.
(C) To permanently merge the two agencies into one centralized state department.
(D) To transfer all existing judicial and police powers to professional urban planners.

98. Consider the following statements regarding metropolitan coordination models:
1. They are established to plan, coordinate, and finance infrastructure across multiple municipal jurisdictions within a metropolitan region.
2. They typically supersede local building permission powers for minor residential alterations.

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3. They handle large-scale regional transport networks like metro rail and ring roads.
4. They strictly prohibit the inclusion of elected representatives on their boards.

Which of the above statements are correct?
(A) 1 and 2
(B) 1 and 3
(C) 2, 3 and 4
(D) 1, 3 and 4

99. In Madhya Pradesh, the coordination between the TCP Department and the Urban Local Body (ULB) is vital during which of the following processes?
(A) Incorporating TCP land-use zones into micro-level building permissions by the ULB.
(B) Finalizing the comprehensive syllabus for state board schools and higher education.
(C) Organizing various state-level sports tournaments and cultural festivals in urban areas.
(D) Fixing the minimum support price for all major agricultural crops produced in the state.

100. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Utility shifting is one of the most significant causes of delay in urban road widening projects.
Reason (R): As-built drawings of underground utilities are often inaccurate, and lack of coordination between constructing agencies and utility owners leads to disputes over relocation costs.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

101. Which of the following statements correctly identifies the function of a Project Monitoring Cell (PMC) in an urban project?
(A) Team tracking milestones, quality, and coordinating contractors and government.
(B) An independent judicial body that sentences contractors to prison for project delays.
(C) A legislative committee that drafts and approves the annual state government budget.
(D) A public relations firm hired solely to advertise the project to the local citizens.

102. Match the following lists regarding clearances and nodal agencies:
List I: (Clearance/Coordination aspect)
P. Environmental Clearance
Q. Land Use Change Approval
R. Fire Safety NOC
S. Land Mutation and Records
List II: (Nodal Agency/Department)
1. Revenue Department
2. Directorate of Fire Services / Local Fire Dept
3. TCP Department / State Govt
4. SEIAA / MoEF&CC
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-3, R-4, S-1

103. Given below are two statements regarding conditional grants:
Statement I: Conditional grants given by the State to ULBs must be spent exclusively on the specific sectors or projects identified in the grant mandate.
Statement II: Unconditional grants allow the ULB flexibility to use the funds according to local priorities, such as paying staff salaries.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

104. Arrange the typical steps involved in the land acquisition process for an urban development project in chronological order:
1. Conducting a Social Impact Assessment (SIA) study.
2. Publication of preliminary notification indicating the intent to acquire land.

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3. Payment of compensation and taking possession of the land.
4. Hearing of objections from affected landowners.

(A) 2-1-4-3
(B) 1-2-4-3
(C) 1-4-2-3
(D) 2-4-1-3

105. A major public park is to be developed in a city. The land belongs to the Revenue Department, the funding is from a Central Scheme (AMRUT), the design is by the TCP, and future maintenance will be by the ULB. Which administrative approach best guarantees success?
(A) Allowing the Revenue Department to design and build the park independently.
(B) Directing the ULB to seize the land without following any formal transfer procedures.
(C) Returning the AMRUT funds to the center to avoid the bureaucratic multi-agency work.
(D) Inter-departmental convergence committee for design, funding, and maintenance MoU.

106. What does "Conditionality" mean in the context of intergovernmental fiscal transfers to local bodies?
(A) Stipulations or targets set by funders that recipients must meet to utilize funds.
(B) The requirement that all local bodies must return the funds with high interest.
(C) The condition that the Mayor must resign from office before receiving state funds.
(D) The absolute freedom given to local bodies to spend funds on rural areas.

107. Which of the following is NOT a functional domain of the District Urban Development Agency (DUDA)?
(A) Implementation of the Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM).
(B) Drafting the statutory comprehensive Master Plan for the city.
(C) Facilitating self-employment schemes for the urban poor.
(D) Monitoring the progress of urban poverty alleviation programs.

108. Identify the INCORRECT pair regarding inter-agency interactions in urban planning:
(A) Convergence - Integrating housing schemes with water supply infrastructure.
(B) Single Window - Requiring a citizen to physically visit ten different departments for a building permit.
(C) Activity Mapping - Clarifying who builds, who funds, and who maintains a community toilet.
(D) MoUs - Documenting terms between a Smart City SPV and a transport corporation.

109. Which of the following mechanisms is considered most effective for resolving inter-departmental conflicts over land use and utility alignment during a major urban project?
(A) High-Powered Committee chaired by Chief Secretary or Collector to issue directives.
(B) Engaging in prolonged public litigation in civil courts over several years.
(C) Pausing the project indefinitely until one department concedes to the other.
(D) Relying entirely on informal verbal agreements between junior engineers at the site.

110. Consider the following statements regarding the coordination of land acquisition for urban projects:
1. Urban Local Bodies and Development Authorities usually lack the direct power to unilaterally acquire private land.
2. The Revenue Department acts as the nodal agency for conducting formal acquisition and mutation of land records.
3. Coordination involves joint surveys by planning authorities and revenue officials to ascertain ownership.
4. Land acquisition cannot proceed if a single resident objects, regardless of public purpose.

Which of the above statements are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

111. In Madhya Pradesh, an urban local body planning to establish a centralized biomethanation plant must seek "Consent to Establish" and

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"Consent to Operate" from which key regulatory institution?
(A) Town and Country Planning Directorate
(B) District Urban Development Agency
(C) State Finance Commission
(D) Madhya Pradesh Pollution Control Board (MPPCB)

112. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Intergovernmental fiscal transfers in India are increasingly shifting from untied grants to conditional, performance-linked grants for urban bodies.
Reason (R): Higher tiers of government seek to incentivize ULBs to undertake politically difficult structural reforms such as rationalizing water tariffs.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

113. Identify the correct pair representing a successful model of inter-agency scheme convergence in urban governance:
(A) Running the Smart Cities Mission isolated from the Swachh Bharat Mission.
(B) Linking PMAY housing with Ujjwala gas and AMRUT water supply.
(C) Funding the Metro Rail project exclusively using local property tax revenues.
(D) Combining the rural MGNREGA scheme with the constitution of Metropolitan Committees.

114. Match the following lists regarding coordination levels and appropriate bodies:
List I: (Coordination Level)
P. Metropolitan Scale
Q. District Scale
R. City Scale
S. Project Scale
List II: (Appropriate Body/Instrument)
1. District Planning Committee (DPC)
2. Metropolitan Planning Committee (MPC) / Regional Authority
3. Project Steering Committee / PMU
4. Mayor-in-Council / SPV Board
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-2, S-4

115. Given below are two statements regarding the role of parastatal agencies:
Statement I: Water boards and Development Authorities are parastatal agencies that often hold technical expertise and financial autonomy.
Statement II: The 74th CAA mandates that all parastatal agencies must immediately be absorbed and dissolved into the respective Municipal Corporations.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct but Statement II is incorrect.
(D) Statement I is incorrect but Statement II is correct.

116. Which of the following statements regarding the relationship between the TCP department and the Urban Local Body (ULB) in building permissions is INCORRECT?
(A) TCP establishes the overarching land use, FAR, and zoning regulations via the Master Plan.
(B) The ULB ensures that individual building plans comply with local building bye-laws and zoning.
(C) The TCP department issues daily plumbing and sanitation compliance certificates for every individual house.
(D) For large-scale multi-story complexes, joint scrutiny or explicit NOC from TCP is often required.

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117. As an Assistant Town Planner, you note a conflict where the Ministry of Environment guidelines mandate a 30-meter buffer zone around a lake, but the local municipal bye-laws allow construction up to 15 meters. What is the legally correct course of action?
(A) Recommend aligning local bye-laws with stringent MoEF guidelines for protection.

(B) Approve construction up to 15 meters to boost municipal revenues, ignoring federal laws.
(C) Suggest filling the lake to create more developable land for commercial real estate.
(D) Allow construction up to 0 meters based on an informal request by the local Mayor.

118. What does "Capacity Building" specifically imply in the context of urban sector reforms under JNNURM and AMRUT?
(A) Constructing much larger municipal office buildings to house more administrative staff.
(B) Increasing the maximum permissible population limit for a city to receive more grants.
(C) Enhancing the carrying capacity of passenger buses within the urban transport system.
(D) Enhancing skills and tools of municipal staff and improving institutional processes.

119. Which of the following is NOT typically considered a barrier to multi-agency coordination in urban planning?
(A) Departmental silo mentalities and lack of data sharing.
(B) Clear activity mapping and unified single window portals.
(C) Overlapping statutory jurisdictions (e.g., roads owned by PWD, ULB, and NHAI).
(D) Frequent transfers of nodal officers and project heads.

120. A Development Authority (DA) constructs an arterial road within municipal limits but refuses to hand it over to the Municipal Corporation (ULB), leading to a situation where neither agency cleans or repairs the road. What is the fundamental institutional failure in this case?
(A) The DA lacked the technical knowledge to build roads and highways within urban areas.
(B) The ULB does not have the constitutional right to maintain any roads in its borders.
(C) Lack of protocol and clearly mapped post-construction maintenance responsibilities.
(D) The State Finance Commission banned the cleaning of arterial roads for fiscal years.

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49. (B) Devolution transfers authority to independent ULBs; Delegation transfers tasks to subordinates.
The primary distinction between devolution and delegation lies in the degree of autonomy granted. Devolution involves the transfer of authority and resources to independent, elected urban local bodies that have their own legal identity. Delegation, however, involves shifting specific tasks or duties to subordinates or semi-autonomous agencies that remain under the ultimate control and accountability of the principal authority.

50. (B) 1, 3 and 4
A GIS-based property tax system is a modern reform that improves municipal revenue by identifying unassessed properties through spatial data. It enhances transparency and collection efficiency by providing an accurate digital record of all taxable assets. While it is a key reform incentivized under the AMRUT mission, it serves to support rather than completely replace the standard municipal valuation procedures.

51. (A) Coordinates departments, bridges state-ULB relations, and may head the SPV board.
In the urban governance framework of Madhya Pradesh, the District Collector plays a critical role as a coordinator and bridge between the state government and urban local bodies. The Collector ensures that various departments work together on city projects and often serves as the chairperson of the board for Smart City Special Purpose Vehicles, providing administrative leadership and oversight.

52. (A) Both A and R are true and R is the correct explanation of A.
Effective urban local governance requires more than just regular municipal elections. While political decentralization ensures representative leadership, it must be supported by fiscal decentralization and the transfer of trained functionaries. Without independent financial resources and skilled staff, urban local bodies cannot exercise true functional autonomy and remain overly dependent on higher tiers of government for their basic operations.

53. (A) Maintaining separate accounts to reinvest utility revenues back into that service.
Ring-fencing in urban utility services involves maintaining separate accounts for specific services like water supply. This financial mechanism ensures that the revenue generated from user charges for a particular service is reinvested directly back into the operation, maintenance, and expansion of that same service. It prevents the diversion of utility funds to other unrelated municipal expenditures, promoting service sustainability.

54. (A) P-2, Q-1, R-3, S-4
Various urban missions in India focus on different development goals. The AMRUT mission prioritizes basic infrastructure like water and sewerage, while the Smart Cities Mission emphasizes area-based development through Special Purpose Vehicles. The Swachh Bharat Mission (Urban) is centered on achieving ODF certifications. Earlier, JNNURM introduced significant urban sector reforms, such as the mandate for repealing the Urban Land Ceiling Act.

55. (C) Statement I is correct but Statement II is incorrect.
Decentralized solid waste management is an approach that emphasizes treating organic waste at the neighborhood level. By processing waste near its source, municipalities can significantly reduce the costs and environmental impact of transporting garbage to central landfills. Success in cities like Indore is actually built upon rigorous source segregation by households, which is the foundation for efficient and modern waste processing.

56. (A) 1-2-3-4
Implementing a GIS-based property tax system involves a series of logical steps. The process begins with a spatial survey of the city using drones or satellites. This data is then integrated with existing municipal tax records. Following this, ground-truthing is conducted to verify any discrepancies. Finally, the municipality issues updated tax demand notices to property owners based on the new assessment.

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9. (D) No election is necessary, and the body remains under administration for the remainder of the term.
Constitutional provisions mandate that when a municipality is dissolved, elections to reconstitute it must generally be completed within six months. However, an exception exists if the remaining term of the dissolved body is less than six months. In such specific cases, it is not mandatory to hold a fresh election, and the body remains under state administration until the term ends.

10. (A) An area with ten lakh plus population, in one or more districts, notified as such by the Governor.
Article 243P of the Indian Constitution defines a metropolitan area as a region having a population of ten lakhs or more. This area may comprise one or more districts and can consist of two or more municipalities or panchayats. The Governor is the designated authority responsible for notifying such areas, taking into account the population and the geographical contiguity involved.

11. (B) Appointing the Municipal Commissioner and technical staff.
Ward Committees are designed to promote grassroots democracy by involving citizens in neighborhood-level governance. Their primary functions include supervising local sanitation, assisting in the preparation of ward-level development plans, and encouraging public participation in civic services. However, administrative powers such as appointing the Municipal Commissioner or technical staff remain with the state government, rather than with these local elected committees.

12. (B) City Engineer - Financial auditing and allocation of state grants
In the administrative framework of urban local bodies, various executive officers are assigned specialized roles. The Municipal Commissioner acts as the chief executive of a corporation, while the Chief Municipal Officer leads smaller councils. While the Health Officer manages public sanitation, the City Engineer is responsible for infrastructure and technical works. Financial auditing and state grant allocations fall under different administrative departments.

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13. (A) The Mayor leads policy formulation, while the Commissioner wields statutory executive powers for implementation.
The governance of an Indian Municipal Corporation is characterized by a separation of deliberative and executive functions. The elected Mayor, as the political head, leads the council in policy formulation and legislative deliberations. Conversely, the Municipal Commissioner is a state-appointed official who wields statutory executive powers to implement these policies and manage the daily administration of the city's municipal services.

14. (A) 1 and 2
The Mayor-in-Council serves as the primary executive committee within the municipal corporation structure in Madhya Pradesh. It is composed of elected councillors who oversee various departments. The committee holds the authority to sanction financial estimates for infrastructure projects within specific limits. However, it does not possess the power to dissolve the corporation, and its members are political representatives rather than technocrats.

15. (D) Madhya Pradesh Municipalities Act, 1961
In Madhya Pradesh, the administration of different tiers of urban local bodies is governed by distinct statutes. While the 1956 Act covers large municipal corporations, the Madhya Pradesh Municipalities Act of 1961 is the exclusive piece of legislation that governs the constitution, functions, and administrative procedures for both Nagar Panchayats and Municipal Councils across the various urban areas of the state.

16. (A) Both A and R are true and R is the correct explanation of A.
The Seventy-fourth Constitutional Amendment Act provides a robust framework to ensure the democratic continuity of urban local bodies. By mandating that elections must be held before the current term expires or within six months of dissolution, the Act restricts the ability of state governments to keep these bodies in a state of prolonged suspension or arbitrary dissolution without representative governance.

17. (B) Mayor-in-Council - The primary deliberative and executive cabinet system.
The Mayor-in-Council model represents a cabinet-style system where elected representatives handle both deliberative and executive functions within a municipality. This structure contrasts with standing committees, which are often permanent thematic bodies. Unlike ward committees, which are intended for local participation, the Mayor-in-Council acts as the central hub for administrative decision-making, ensuring that the elected leadership maintains direct control over city management.

18. (A) P-2, Q-1, R-4, S-3
Various constitutional and statutory bodies play specialized roles in the urban governance landscape. The State Finance Commission recommends fund devolution principles, while the District Planning Committee consolidates plans from panchayats and municipalities. Metropolitan Planning Committees focus on drafting development plans for large urban regions. Finally, the Municipal Council functions as the deliberative wing responsible for passing the local civic budget and resolutions.

19. (A) Both Statement I and Statement II are correct.
Urban Local Bodies perform a wide range of functions categorized into planning and regulatory domains. The planning function involves formulating long-term spatial strategies and master plans to guide city growth. The regulatory function ensures compliance with urban standards through the enforcement of building bye-laws and the issuance of construction permissions. Both roles are essential for maintaining organized development and public safety.

20. (C) Development Authorities, as parastatals, typically derive their powers directly from the 74th Constitutional Amendment Act.
Parastatal agencies are state-sponsored statutory bodies designed to manage specialized urban functions such as housing, water supply, and infrastructure development. While they provide technical expertise, they often operate outside the direct democratic control of elected local bodies. Unlike Municipal Corporations, these authorities typically derive their specific legal powers from individual state legislations rather than directly from the 74th Constitutional Amendment.

21. (A) Expanding the tax base through GIS assessment and rationalizing user charges.
Achieving fiscal decentralization requires urban local bodies to reduce their dependence on state and central grants by enhancing their own-source revenue. A sustainable strategy involves expanding the tax base through modern tools like GIS-based property assessments and rationalizing user charges for services. This approach ensures that the municipality can fund its operations independently and maintain administrative autonomy over its functions.

22. (D) Members who hold a position on the committee automatically by virtue of holding another specific public office.
Ex-officio membership is a common administrative feature in metropolitan and district planning committees. This term refers to individuals who automatically become members of a specific committee or board because they hold another particular public office. This ensures institutional coordination by bringing together heads of various departments or agencies without the need for separate appointments or elections for those specific roles.

23. (B) Madhya Pradesh Rural Roads Development Authority (MPRRDA)
Madhya Pradesh has established several specialized institutions to manage urban development and planning, including the Urban Development Company, the Directorate of Urban Administration, and the Town and Country Planning department. However, the Rural Roads Development Authority is specifically tasked with the construction and maintenance of road networks in rural areas. It does not function within the urban planning and governance framework.

24. (C) The Speaker presides, or an interim Mayor is appointed until a formal by-election.
When a governance vacuum occurs due to the sudden resignation of a Mayor, municipal laws provide mechanisms to ensure immediate administrative continuity. Typically, the Speaker of the council presides over meetings, or an interim Mayor is appointed from among the

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existing councillors. This temporary arrangement remains in place until a formal by-election is conducted to fill the vacant mayoral position.

25. (B) 18 functions
The Seventy-fourth Constitutional Amendment Act added the Twelfth Schedule to the Constitution of India. This schedule enumerates eighteen specific functional domains that are intended to be devolved to Urban Local Bodies by the state governments. These functions cover a wide range of urban responsibilities, including town planning, land-use regulation, water supply, public health, sanitation, and the promotion of social justice.

26. (B) 1, 2 and 4
The Town and Country Planning Department in Madhya Pradesh operates under the statutory framework of the 1973 Act. Its core responsibilities include preparing regional and city-level master plans and scrutinizing layout approvals for urban projects. While the department focuses on spatial regulation and planning, the actual physical construction of housing projects is typically handled by other agencies like housing boards.

27. (B) Area Development Authority (e.g., IDA, BDA)
Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam of 1973, Area Development Authorities are specifically constituted to implement development plans. These bodies, such as the Indore Development Authority or Bhopal Development Authority, are responsible for executing town planning schemes. They focus on land acquisition, infrastructure development, and plotting to facilitate organized urban expansion in major cities across the state.

28. (A) Both A and R are true and R is the correct explanation of A.
The use of parastatal agencies like development authorities is often criticized for creating a democratic deficit in urban governance. This is because these agencies are typically managed by appointed bureaucrats and technical experts rather than elected representatives. Consequently, they are less directly accountable to the local electorate, which can lead to a disconnect between technical planning and the citizens' needs.

29. (A) Article 243ZE mandates MPCs in metropolitan areas to draft regional development plans.
Article 243ZE of the Constitution of India provides the legal mandate for the establishment of Metropolitan Planning Committees in every metropolitan area. The primary objective of an MPC is to prepare a draft development plan for the entire metropolitan region. This process involves coordinating the plans of various local bodies and ensuring an integrated approach to regional infrastructure and land use.

30. (A) P-3, Q-2, R-4, S-1
Madhya Pradesh utilizes various institutional entities to manage its urban sector. The Town and Country Planning Department prepares statutory master plans, while the Housing Board provides affordable residential accommodations. The Urban Development Company executes projects funded by external agencies. Additionally, the District Urban Development Agency is responsible for coordinating poverty alleviation and livelihood programs at the district level for the urban poor.

31. (D) Statement I is incorrect but Statement II is correct.
The Twelfth Schedule of the Constitution outlines the functional domain of urban local bodies, but its implementation is not automatic. The devolution of these eighteen functions remains at the discretion of each state legislature. This flexibility means that the degree of decentralization varies significantly across India, as some states have transferred more powers and resources to their municipalities than others.

32. (A) 3-2-4-1
The spatial planning process under the MPTGNP Act follows a specific hierarchy. It typically begins with the preparation of a broad Regional Plan to guide overall growth. This is followed by the formal declaration of a Planning Area for a specific city. Subsequently, a detailed Development Plan or Master Plan is prepared, which is eventually refined into specific Zonal Development Plans.

33. (B) A Special Purpose Vehicle (SPV) incorporated under the Companies Act.
To implement the Smart Cities Mission, cities establish a Special Purpose Vehicle, which is

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incorporated as a limited company under the Companies Act. This institutional mechanism is designed to provide operational autonomy, ensure rapid project execution, and facilitate financial ring-fencing. The SPV structure also encourages private sector participation and allows for more flexible management compared to traditional municipal administrative frameworks.

34. (D) A limited company promoted by State/ULB under the Companies Act to implement projects.
A Special Purpose Vehicle in the context of India's Smart Cities Mission is a limited company promoted jointly by the state government and the urban local body. Established under the Companies Act, the SPV is responsible for planning, appraising, and implementing smart city projects. This corporate structure allows for professional management, streamlined decision-making, and the efficient mobilization of financial resources.

35. (A) Law and order and police administration.
The Twelfth Schedule includes eighteen functions such as urban planning, water supply, public health, and slum improvement. These are meant to be handled by local governments to improve civic life. However, maintaining law and order and the administration of the police remain the exclusive responsibility of the state government and are not included among the devolved municipal functions.

36. (C) District Planning Committee - Exclusively handles urban solid waste management in metropolitan cities.
Urban institutions are defined by their specific roles. Development authorities focus on land and infrastructure, while Smart City SPVs operate under corporate boards to execute specialized projects. The State Finance Commission handles fiscal devolution recommendations. However, the District Planning Committee is responsible for consolidating district-level plans rather than performing operational tasks like solid waste management within the limits of metropolitan cities.

37. (A) State governments lack the political will to devolve planning powers to elected MPCs.
Although the Constitution mandates the formation of Metropolitan Planning Committees, many states have struggled with their effective implementation. A significant reason for this gap is the lack of political will at the state level to devolve planning and financial powers to these elected committees. This reluctance often leads to the marginalization of MPCs in favor of state-controlled parastatal agencies.

38. (B) 1, 3 and 4
Smart City Special Purpose Vehicles are structured as limited companies to ensure professional and autonomous management. They have the operational flexibility to mobilize resources through innovative financial instruments like municipal bonds. While the SPV is managed by a board of directors, the Chief Executive Officer is typically an appointed bureaucratic officer, ensuring that technical and administrative expertise leads project implementation.

39. (B) Implementing projects funded by multilateral agencies like the World Bank and ADB.
The Madhya Pradesh Urban Development Company serves as a specialized nodal agency for the state's urban sector. Its primary mandate is to implement large-scale urban infrastructure projects that are funded by multilateral international agencies, such as the World Bank and the Asian Development Bank. This allows the state to leverage global expertise and financial resources for modernizing its urban systems.

40. (A) Both A and R are true and R is the correct explanation of A.
District Urban Development Agencies were primarily established to coordinate and administer urban poverty alleviation and livelihood generation programs. Because their organizational structure and expertise are focused on social welfare and community development, they often face significant challenges when tasked with coordinating heavy engineering infrastructure projects. Such complex projects, like metro rail networks, typically require specialized technical agencies for execution.

41. (D) Political Decentralization - Transfer of public authority to an autonomous lower level of elected government.
Political decentralization involves the transfer of authority and responsibility for public functions from the central government to autonomous

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lower-level elected governments. This process empowers local citizens through representative institutions and ensures that decision-making is more responsive to local needs. It is distinct from administrative delegation, which involves shifting tasks within the same hierarchy, or fiscal decentralization, which concerns financial autonomy.

42. (A) P-3, Q-2, R-1, S-4
Decentralization takes several forms depending on the degree of autonomy transferred. Devolution involves granting functions and resources to independent elected local governments. Delegation refers to transferring specific tasks to semi-autonomous agencies. Deconcentration is the redistribution of administrative authority within the same central ministry. Finally, privatization involves shifting the delivery of public services to non-governmental and commercial business entities.

43. (C) Statement I is correct but Statement II is incorrect.
Activity mapping is a vital administrative tool used to clarify the roles of various government tiers and agencies in service delivery. It helps reduce confusion by clearly delineating who is responsible for funding, implementation, and maintenance. However, despite these efforts in Madhya Pradesh, overlapping jurisdictions between urban local bodies and departments like Town and Country Planning often persist in practice.

44. (B) AMRUT strictly prohibits the levying of user charges for water supply and sewerage services by ULBs.
The AMRUT mission focuses on basic urban infrastructure and mandates several reforms to improve municipal efficiency. These reforms include establishing a professional municipal cadre and implementing GIS-based property tax systems. Contrary to the idea of prohibiting fees, AMRUT actually encourages the levying of user charges for services like water and sewerage to ensure the long-term financial sustainability of urban utilities.

45. (A) Implementing a user charge system to recover operation and maintenance costs.
When a municipality faces a situation where service costs exceed revenues, fiscal decentralization principles suggest moving toward self-sufficiency. Implementing a user charge system for services like solid waste management is a sustainable corrective measure. This allows the urban local body to recover its operation and maintenance costs directly from the beneficiaries, reducing the reliance on external grants for daily expenses.

46. (C) Systematic assignment of functions, staff, and funds across tiers of government.
Activity mapping is a systematic process used in governance to assign functions, staff, and funds across different levels of government. It aims to eliminate ambiguity by clearly defining the responsibilities of each tier, from the state level down to the local bodies. This ensures that every public task is matched with the necessary authority and resources for effective implementation.

47. (D) State Finance Commission devolution grants.
Own Source Revenue refers to the income that an urban local body generates directly through its own authority. This includes property taxes, advertisement taxes, and building permission fees. In contrast, grants received from the State Finance Commission are categorized as intergovernmental fiscal transfers. While these grants are essential for municipal budgets, they are not considered part of the municipality's own-source revenue.

48. (C) Administrative Delegation or Deputation.
When the state government temporarily transfers technical personnel to a local council while keeping them on the state payroll, it is an example of administrative delegation or deputation. This mechanism helps address immediate capacity gaps at the local level without permanently changing the administrative structure. It allows the local body to utilize specialized expertise for complex projects while maintaining departmental links.

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65. (B) District Collector - Nodal officer for coordinating land and revenue for urban projects.
Key administrative figures play specific roles in managing urban affairs in Madhya Pradesh. The District Collector serves as the nodal officer for coordinating land acquisition and revenue matters, which are essential for city projects. Unlike the Municipal Commissioner, who is an appointed official, or the Mayor, who is an elected political leader, the Collector ensures that state-level resources and departments support urban development.

66. (A) P-1, Q-2, R-3, S-4
Urban governance in Madhya Pradesh features diverse institutional models. The BHEL township in Bhopal is managed as an industrial township, while the Indore Development Authority acts as a parastatal for spatial expansion. Nagar Panchayats are the designated local bodies for transitional urban areas. Smart City Special Purpose Vehicles represent a ring-fenced corporate governance model designed for the focused implementation of urban projects.

67. (C) Statement I is correct but Statement II is incorrect.
The rise of technocratic governance, exemplified by Smart City Special Purpose Vehicles, has introduced new dynamics into city management. While these structures can lead to speedier project execution, they sometimes cause friction with elected representatives like Mayors who represent the democratic will. Technocratic models generally prioritize efficiency and data-driven results, which can contrast with the deliberative and debate-heavy processes of traditional municipal councils.

68. (C) AMRUT bypasses the State Government and directly releases funds to the accounts of Ward Councillors.
The AMRUT mission focuses on upgrading basic infrastructure in cities with populations over one lakh. It requires the state government to prepare Annual Action Plans to guide development. However, the funding mechanism does not bypass the state. Instead of releasing funds directly to the accounts of individual ward councillors, the mission uses a structured process involving state-level and municipal-level financial management.

69. (A) Forming a Joint Committee (SPV, ULB, TCP) to align BRTS with heritage norms.
In complex urban environments like Bhopal, overlapping jurisdictions can lead to conflicts between different development goals. When a transport project clashes with heritage conservation, the most effective institutional approach is to form a joint committee. This committee brings together the SPV, the local body, and the planning department to find a negotiated solution that aligns infrastructure needs with conservation norms.

70. (D) Framework for standards and protocols to manage and share urban data across departments.
Data governance in the context of urban management involves creating a framework of standards and protocols for handling information. For initiatives like the MP Urban Observatory, this means establishing clear rules for how data is collected, stored, and shared across different government departments. Effective data governance ensures that urban information is reliable, accessible, and used to support evidence-based policymaking for better city planning.

71. (D) Creating informational silos to prevent data sharing.
Addressing multi-agency coordination challenges requires tools that promote transparency and cooperation. Mechanisms such as Single Window Clearance systems, Memoranda of Understanding, and project steering committees are used to align the efforts of different departments. In contrast, creating informational silos, where data is intentionally withheld or not shared between agencies, acts as a major barrier that hinders efficient urban planning and project execution.

72. (C) Launching a GIS/drone survey to identify and integrate unassessed properties.
When a municipal council faces low own-source revenue due to a narrow tax net, it must adopt proactive measures to improve its financial health. Launching a GIS-based drone survey is a highly effective strategy to identify properties that are currently unassessed or under-assessed. Integrating these properties into the tax database allows the municipality to increase its revenue

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57. (D) Delegating ward-level operation and maintenance to associations while the ULB retains tariff regulation.
Decentralizing a water utility service can be effectively achieved by delegating the day-to-day operation and maintenance tasks to ward-level committees or resident associations. This approach brings the management closer to the users and improves responsiveness. Meanwhile, the urban local body retains its authority over tariff regulation and high-level technical planning, ensuring that the service remains equitable, regulated, and professionally supervised.

58. (A) The shortfall in expertise, funds, and staff required to perform municipal tasks.
The term capacity gap refers to the shortfall in the technical expertise, financial resources, and administrative staff that an urban local body needs to perform its duties effectively. Many municipalities struggle because they lack the necessary planners, engineers, and modern tools to manage complex urban systems. Addressing this gap is essential for the successful implementation of decentralization and urban reforms.

59. (B) Withdrawing the power of ULBs to levy property taxes.
Capacity-building measures are designed to strengthen urban local bodies through training, better tools, and institutional improvements. This includes educating staff on GIS applications and creating professional municipal cadres. Conversely, withdrawing the statutory power of a municipality to levy and collect property taxes would undermine its financial independence and capacity, making it more dependent on external support rather than more capable.

60. (B) Madhya Pradesh Pollution Control Board (MPPCB) - Formulation of the municipal budget.
Urban governance in Madhya Pradesh involves multiple agencies with distinct mandates. The Town and Country Planning department handles spatial zoning, while the Public Health Engineering Department manages bulk water supply. Development authorities focus on land pooling and plotting. However, the Madhya Pradesh Pollution Control Board is an environmental regulatory body and is not involved in the formulation of municipal budgets for local bodies.

61. (A) Shortage of technically qualified urban planners and specialized administrative staff.
Smaller Nagar Panchayats in Madhya Pradesh face significant hurdles in delivering quality civic services. The most critical capacity gap for these bodies is the severe shortage of technically qualified urban planners and specialized administrative staff. Without this expertise, these small towns struggle to plan for growth, manage infrastructure projects effectively, or implement modern urban reforms that are required by the state.

62. (C) 1, 2 and 4
The success of the Indore Municipal Corporation in waste management is attributed to several key strategies. These include the enforcement of 100% door-to-door waste collection with source segregation and the use of biometric and GPS tracking systems for workers and vehicles. Additionally, the implementation of a spot-fine system for littering has helped ensure civic discipline among the city's residents.

63. (D) Urban Development and Housing Department (UDHD).
Development authorities in Madhya Pradesh, such as the Bhopal Development Authority, are parastatal agencies established to manage urban expansion and housing. These authorities function under the direct administrative control and oversight of the state's Urban Development and Housing Department. This department provides the legal and policy framework within which the authorities operate to execute land development and infrastructure projects.

64. (A) Both A and R are true and R is the correct explanation of A.
Property tax is a primary source of revenue for urban local bodies, yet it remains significantly under-exploited across many Indian cities. Low collection efficiency is often the result of outdated property valuation methods, a narrow tax base, and various exemptions. Furthermore, a lack of political will to revise rates and improve coverage prevents municipalities from maximizing this vital internal revenue source.

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ANSWERS

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1. (C) Population of three lakhs or more
The Seventy-fourth Constitutional Amendment Act introduced Article 243S, which mandates the constitution of Ward Committees within the territorial area of a municipality. This requirement is specifically applicable to municipalities having a population of three lakhs or more. These committees aim to enhance local participation in governance by bringing administration closer to the citizens at the neighborhood level.

2. (B) 1, 2 and 4
The Seventy-fourth Amendment Act ensures democratic representation through proportional seat reservations for Scheduled Castes and Scheduled Tribes. It also mandates the creation of District Planning Committees to integrate rural and urban planning. State legislatures are empowered to authorize municipalities to levy and collect taxes, while elections for any dissolved municipal body must be held within six months.

3. (A) The State Government of Madhya Pradesh
Under the provisions of the Madhya Pradesh Municipal Corporation Act of 1956, the State Government of Madhya Pradesh holds the primary authority for framing administrative and financial rules. These rules dictate the functioning and decision-making processes of the Mayor-in-Council. This centralized rule-making ensures uniformity in governance across different municipal corporations while maintaining state-level oversight over executive actions.

4. (C) A is true but R is false.
The State Election Commission is constitutionally vested with the powers of superintendence, direction, and control over the preparation of electoral rolls for municipal elections. However, urban local bodies are not sovereign entities. They function as instruments of self-government under state legislation, and matters concerning electoral delimitation or ward boundary alterations remain under the jurisdiction of the state government.

5. (A) A Municipal Council is established for a smaller urban area as notified by the Governor.
The Constitution of India specifies three types of urban local bodies based on the size and nature of the area. A Municipal Council is established for a smaller urban area, as determined and notified by the Governor. Conversely, Nagar Panchayats serve transitional areas, while Municipal Corporations manage larger urban areas, ensuring administrative structures match the specific demographic and economic needs.

6. (A) P-3, Q-4, R-1, S-2
Urban governance structures in India are categorized based on the developmental stage of the locality. Transitional areas moving from rural to urban status are governed by Nagar Panchayats. Smaller urban areas are managed by Municipal Councils, while larger urban areas utilize Municipal Corporations. Specific industrial townships may be exempted from standard municipal structures if the Governor provides for such specialized governance.

7. (C) Statement I is correct but Statement II is incorrect.
The State Finance Commission is a constitutional body tasked with recommending the principles for distributing tax proceeds between the state and local municipalities. While these recommendations provide a framework for fiscal devolution and improving the financial health of urban bodies, they are not legally binding or absolute. The state government must place the recommendations and an explanatory memorandum before the legislature.

8. (A) 3-1-4-2
The evolution of urban governance in Madhya Pradesh began with the enactment of the Nagar Tatha Gram Nivesh Adhiniyam in 1973. This was followed by the landmark 74th Constitutional Amendment Act in 1992, which decentralized power. In the twenty-first century, the Jawaharlal Nehru National Urban Renewal Mission was launched in 2005, followed by the AMRUT mission in 2015.

without necessarily raising the tax rates for existing payers.

73. (D) Bioremediation of a legacy landfill into a forest and processing facility.
The transformation of the trenching ground in Indore is a landmark success in Indian urban governance. The city successfully undertook the bioremediation of a legacy landfill, converting it into a lush urban forest and a modern waste processing facility. This project demonstrates how political will and technical expertise can solve long-standing environmental challenges and turn degraded land into valuable civic and ecological assets.

74. (B) 1, 2 and 4
The Bhopal Municipal Corporation is governed by the Madhya Pradesh Municipal Corporation Act of 1956. Its administrative structure includes an elected Mayor and various specialized standing committees that manage functions like health and public works. While the corporation has local authority, it remains under the administrative oversight and policy framework of the state's Urban Development and Housing Department rather than functioning independently.

75. (B) Collecting and analyzing urban data to aid evidence-based policymaking.
The primary role of the Madhya Pradesh Urban Observatory is to serve as a central hub for urban data analytics. By collecting and analyzing information related to various urban indicators, the observatory provides the necessary evidence for informed and effective policymaking. This data-driven approach helps state and local authorities understand city trends, identify gaps in services, and plan more effectively for future urban growth.

76. (A) Both A and R are true and R is the correct explanation of A.
Indore's consistent ranking as the cleanest city in India is the result of a comprehensive and well-executed urban management strategy. The Indore Municipal Corporation combined strong political will with strict administrative enforcement of sanitation rules. This was supported by the development of robust solid waste management infrastructure, including source segregation and efficient processing, which together transformed the city's cleanliness and public health outcomes.

77. (A) BMC is an elected body for civic amenities; BDA is a parastatal for land and housing.
In Bhopal, urban governance is divided between the Municipal Corporation and the Development Authority. The Municipal Corporation is an elected body responsible for providing daily civic services like waste collection and water supply. In contrast, the Bhopal Development Authority is a parastatal agency focused on large-scale land acquisition, housing projects, and the implementation of spatial plans that facilitate the city's long-term physical expansion.

78. (A) P-3, Q-4, R-1, S-2
Various state-level institutions manage the urban sector in Madhya Pradesh. The Urban Development and Housing Department provides general administrative control over local bodies. The Urban Development Company manages projects with external funding, while the District Urban Development Agency focuses on poverty programs. Environmental regulatory compliance is the responsibility of the Pollution Control Board, ensuring that urban development meets the required national and state environmental standards.

79. (C) Statement I is correct but Statement II is incorrect.
The Divisional Commissioner in Madhya Pradesh acts as a key administrative coordinator within their division. They bridge the gap between various agencies, including urban local bodies, development authorities, and the police, to ensure that regional projects are implemented smoothly. However, technical planning tasks, such as the preparation of Zonal Plans for municipal wards, are handled by specialized planning departments rather than the Commissioner's office directly.

80. (A) 1-3-2-4
Notifying and finalizing a Master Plan under the MPTGNP Act involves several formal steps. The process begins with the constitution of a Planning Area, followed by existing land-use surveys and the preparation of a base map. A draft development plan is then published to invite public objections and suggestions. Finally, the plan receives official approval and notification

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13. As envisioned under the Community Participation Law tied to the 74th Constitutional Amendment Act objectives, what constitutes an "Area Sabha"?
(A) An assembly of all registered voters residing in the geographical area of polling booths within a municipal ward.
(B) The body of all elected municipal councilors representing a single administrative zone within the city.
(C) A specialized committee of architects and town planners appointed by the Mayor for local development.
(D) A formal union consisting of all Resident Welfare Association presidents within the defined municipal boundary.

14. Read the following statements regarding Ward Committees under the 74th CAA:
Statement I: The 74th Constitutional Amendment Act mandates the constitution of Ward Committees in all municipalities regardless of their population size.
Statement II: The primary function of a Ward Committee is to facilitate localized grievance redressal and participatory micro-planning.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

15. Match the community engagement entities in List I with their primary roles in List II:
List I: Community Engagement Entities
P. Resident Welfare Associations (RWAs)
Q. Self-Help Groups (SHGs)
R. Mahila Mandals
S. Civil Society Organizations (CSOs/NGOs)
List II: Primary Roles
1. Fostering women's participation in local civic issues and cultural cohesion
2. Facilitating institutional capacity building and technical advocacy for marginalized groups
3. Managing neighborhood-level amenities and representing middle/upper-class civic interests
4. Promoting micro-finance, livelihood generation, and service delivery in low-income settlements
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

16. Which of the following statements regarding slum dweller participation in upgrading projects is INCORRECT?
(A) Participatory slum upgrading often involves communities contributing labor or capital towards local infrastructure.
(B) Community-led enumeration is a critical first step in participatory slum upgrading.
(C) Tenure security is typically irrelevant to the willingness of slum dwellers to participate in upgrading initiatives.
(D) Involvement of slum dwellers helps ensure that infrastructure interventions meet actual ground-level needs.

17. A planner is designing a park in a neighborhood shared by an upscale housing society and a nearby informal settlement. The RWA demands exclusive recreational facilities, while the informal settlement needs basic open space and thoroughfare access. Which competency-based approach is most appropriate to resolve this?
(A) Prioritizing the RWA's demands exclusively since they contribute higher property taxes to the municipal treasury.
(B) Organizing a multi-stakeholder charrette to co-design a shared space accommodating recreational and transit needs.
(C) Designing the park strictly for the informal settlement's residents to fulfill specific social justice development quotas.
(D) Abandoning the park project entirely and converting the land into a commercial complex to avoid local community conflict.

18. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Social audit is an essential mechanism for community engagement in urban governance.
Reason (R): Social audit relies exclusively on external chartered accountants to verify the financial ledgers of the urban local body.
(A) Both A and R are true and R is the correct explanation of A.

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agencies. By providing a unified digital portal, it reduces the time and effort required for developers to get projects approved, thereby promoting transparency and facilitating more organized and efficient urban development.

89. (D) PHED - Responsible for bulk water infrastructure and ULB coordination.
Effective urban governance in Madhya Pradesh requires cooperation between specialized agencies. The Public Health Engineering Department is the key agency responsible for planning and executing bulk water infrastructure projects. It coordinates closely with urban local bodies to ensure that water supply schemes are implemented effectively. This roles-based division ensures that specialized engineering tasks are managed by the appropriate department while local bodies handle distribution.

90. (A) P-2, Q-1, R-4, S-3
Major urban projects require coordination with multiple utility and regulatory agencies. The electricity board manages the shifting of power lines, while the pollution control board provides environmental clearances. The Public Works Department ensures that project alignments match state highway standards. Additionally, the revenue department is the central authority for all matters related to government land transfers and the formal acquisition of private property.

91. (C) Statement I is correct but Statement II is incorrect.
Scheme convergence is a strategic approach in urban development that aims to integrate funds and efforts from various state and central programs. By targeting multiple schemes in the same geographical area, governments can maximize the impact on urban residents. Far from forbidding departmental cooperation, convergence explicitly encourages different agencies to work together on the same site to provide comprehensive infrastructure and social services.

92. (B) Urban Local Bodies possess the absolute sovereign authority to waive off all national environmental clearances.
Large-scale urban projects in India must comply with national environmental regulations, including the EIA Notification of 2006. This involves coordination between various bodies like the state and national environmental authorities. Urban local bodies do not possess the sovereign power to waive these national requirements. Instead, they must ensure that all municipal developments strictly adhere to the established environmental standards and monitoring protocols.

93. (A) Multi-Departmental Project Steering Committee to resolve shifting and acquisition.
Infrastructure projects like flyovers often involve multiple departments for land acquisition, utility shifting, and environmental clearances. To manage this complexity, the most efficient mechanism is a multi-departmental project steering committee. Such a body brings together the relevant officials from revenue, forestry, and utility departments to resolve conflicts and synchronize their actions, ensuring that the project proceeds without unnecessary delays or legal disputes.

94. (C) Transfer of funds from Center/State to ULBs via grants, shared taxes, or loans.
Intergovernmental fiscal transfers are the primary mechanisms through which funds move from the central and state governments to urban local bodies. These transfers include shared taxes, both tied and untied grants, and various forms of loans. They are essential for bridging the gap between the limited own-source revenue of municipalities and the high cost of providing modern urban infrastructure and services.

95. (D) Mandating that employees belong to a specific political party.
Performance-based grants are increasingly used to incentivize urban sector reforms. These grants are usually conditional on the local body meeting specific targets, such as improving property tax collection, implementing e-governance systems, or publishing audited financial statements. However, administrative and fiscal conditions do not include political requirements. Mandating that municipal employees belong to a specific political party is not a valid condition for receiving grants.

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CHAPTER 17
Participatory and Digital Governance

1. According to Sherry Arnstein's Ladder of Citizen Participation, which of the following represents the highest degree of citizen empowerment?
(A) Placation
(B) Citizen Control
(C) Partnership
(D) Delegated Power

2. Read the following statements regarding the IAP2 Spectrum of Public Participation:
Statement I: The "Consult" level promises the public that their input will be considered and feedback will be provided on how it influenced the decision.
Statement II: The "Empower" level places final decision-making authority entirely in the hands of the administrative officials.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

3. Match the levels of public participation in List I with their corresponding primary goals in List II as per the IAP2 Spectrum:
List I: Participation Levels
P. Inform
Q. Involve
R. Collaborate
S. Empower
List II: Primary Goals
1. To partner with the public in each aspect of the decision including the development of alternatives
2. To place final decision-making in the hands of the public
3. To provide the public with balanced and objective information
4. To work directly with the public throughout the process to ensure concerns are consistently understood

(A) P-3, Q-4, R-1, S-2
(B) P-3, Q-1, R-4, S-2
(C) P-4, Q-3, R-2, S-1
(D) P-1, Q-2, R-3, S-4

4. Which of the following statements correctly describes the public notice and objection process in statutory development plan preparation?
(A) The planning authority must address and resolve all public objections before the draft plan can be published.
(B) Public objections can only be filed by registered Non-Governmental Organizations and not by individual citizens.
(C) A statutory time limit is provided during which the public can file written objections or suggestions regarding the draft plan.
(D) The state government has the authority to bypass the public notice process if the plan is prepared by an external consultant.

5. A town planner is tasked with organizing an Environmental Public Hearing for a proposed waste-to-energy plant near a residential zone. Which of the following actions is most critical for ensuring the statutory validity of the hearing under the EIA Notification?
(A) Ensuring a minimum of 30 days' notice is given to the public through local and national daily newspapers
(B) Conducting the hearing exclusively in the English language to ensure technical accuracy for the official records
(C) Restricting attendance strictly to those individuals who hold a formal degree in environmental science or engineering
(D) Finalizing the environmental clearance before the hearing to present a completed and approved project report

6. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):

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104. (B) 1-2-4-3
The formal process of land acquisition for public projects follows a detailed legal sequence. It begins with a Social Impact Assessment study to evaluate the project's effects. This is followed by a preliminary notification of the intent to acquire the land. Afterward, a hearing is conducted to address objections from landowners. Finally, the process concludes with the payment of compensation and the formal possession of the land.

105. (D) Inter-departmental convergence committee for design, funding, and maintenance MoU.
When a major project like a public park involves multiple levels of government and different departments, a fragmented approach often fails. The most successful administrative strategy is to establish an inter-departmental convergence committee. This committee oversees the design, funding, and maintenance, while a formal Memorandum of Understanding documents the specific responsibilities of the revenue department, the planning body, and the local municipality for long-term management.

106. (A) Stipulations or targets set by funders that recipients must meet to utilize funds.
Conditionality refers to the set of requirements or performance targets that a funding authority, such as the state or central government, attaches to fiscal transfers. These stipulations ensure that the recipient urban local body uses the funds for their intended purpose and undertakes specific reforms. Recipient bodies must meet these conditions to access and continue utilizing the allocated financial resources for their urban projects.

107. (B) Drafting the statutory comprehensive Master Plan for the city.
The District Urban Development Agency is primarily focused on social and economic welfare for the urban poor. Its responsibilities include implementing the National Urban Livelihoods Mission and monitoring poverty alleviation schemes. While it coordinates various district-level urban programs, it is not responsible for drafting the city's statutory Master Plan. That technical and legal planning function remains the exclusive domain of the Town and Country Planning Department.

108. (B) Single Window - Requiring a citizen to physically visit ten different departments for a building permit.
Multi-agency interactions are improved through tools like convergence, which integrates infrastructure and housing, and activity mapping, which clarifies responsibilities. MoUs are also vital for documenting agreements between agencies. However, a system that requires a citizen to physically visit ten different departments for a single building permit represents a failed administrative process. This is the exact opposite of what a modern Single Window Clearance system is designed to achieve.

109. (A) High-Powered Committee chaired by Chief Secretary or Collector to issue directives.
When departments disagree over technical matters like land use or utility alignments, traditional administrative channels may be insufficient. The most effective resolution mechanism is a High-Powered Committee, typically chaired by a senior official such as the Chief Secretary or the District Collector. This committee has the authority to issue binding directives, ensuring that departmental silos do not stall critical urban infrastructure projects of public importance.

110. (A) 1, 2 and 3
Coordinating land acquisition for city projects is a complex task involving several agencies. While urban local bodies and development authorities identify project needs, the Revenue Department acts as the nodal agency for the formal acquisition process. Coordination requires joint surveys to verify ownership and existing land use. Although public purpose allows acquisition despite individual objections, the law ensures that affected parties are heard and compensated fairly.

111. (D) Madhya Pradesh Pollution Control Board (MPPCB)
Any urban local body in Madhya Pradesh planning to build and operate a waste processing facility, such as a biomethanation plant, must comply with national environmental standards. This requires obtaining formal "Consent to Establish" and "Consent to Operate" from the Madhya Pradesh Pollution Control Board. This regulatory oversight ensures that the facility

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from the state government to become legally effective.

81. (B) Focus on behavior change, source segregation, and decentralized composting.
Smaller towns and Nagar Panchayats that lack large-scale financial capital can still achieve success in solid waste management. The most viable initial strategy is to focus on behavior change and decentralized solutions. By promoting source segregation at the household level and establishing local composting facilities, these towns can manage their waste effectively without the need for expensive, centralized waste-to-energy plants or massive infrastructure projects.

82. (B) Governance structured around experts, data, and bureaucrats, often in Special Purpose Vehicles.
Technocratic governance in the urban sector refers to a management model that prioritizes technical expertise, data analysis, and professional administration. Often implemented through Special Purpose Vehicles, this approach relies on bureaucrats and specialists rather than exclusively on political processes. It is designed to ensure efficiency, speed, and high-quality implementation in complex urban missions by focusing on technical outcomes and professional project management standards.

83. (A) Direct collection of property taxes from urban households.
The Town and Country Planning Department focuses on spatial planning and land-use regulation. Its roles include formulating regional and city master plans and providing technical advice on urbanization. While the department scrutinizes and approves real estate layouts to ensure they match planning standards, it does not have the authority to collect property taxes. Tax collection remains the primary functional responsibility of individual Urban Local Bodies.

84. (C) Single Window Clearance - A bureaucratic bottleneck designed to maximize distinct approvals.
Coordination in urban planning is often hindered by overlapping jurisdictions and delays in shifting utilities. However, a Single Window Clearance system is specifically designed as a solution to these problems. Rather than acting as a bureaucratic bottleneck, it consolidates multiple approvals into a unified digital portal. This simplifies the process for developers and citizens, making the urban administrative system more efficient, transparent, and user-friendly.

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85. (A) Issue discussed in a Steering Committee or Advisory Forum for negotiated solutions.
When conflicts arise between the technocratic leadership of a Smart City SPV and elected municipal officials, formal negotiation mechanisms are required. Tensions over projects can be resolved within a Steering Committee or an Advisory Forum where both sides can present their perspectives. This ensures that infrastructure projects proceed with political consensus and that the concerns of local residents regarding livelihoods are adequately addressed.

86. (B) 1, 3 and 4
Smaller towns governed by Nagar Panchayats face unique challenges in the urban sector. They frequently suffer from a shortage of technical staff, which hinders their ability to plan and implement complex infrastructure like sewerage systems. Furthermore, these bodies have a weak own-source revenue base and must rely heavily on state grants and devolution for their operational expenses and basic service delivery.

87. (B) UDHD oversees municipal administration/ housing; TCP is for spatial planning/land use.
The urban administrative landscape in Madhya Pradesh is split between the Urban Development and Housing Department and the Town and Country Planning Department. UDHD is primarily responsible for the general administration of local bodies and the implementation of housing policies. In contrast, the TCP Department focuses on the technical aspects of spatial planning, including land-use regulation and the preparation of city-wide master plans.

88. (A) Both A and R are true and R is the correct explanation of A.
The implementation of a Single Window Clearance system is a major reform in urban governance. It simplifies the building permission process by consolidating the various approvals required from multiple, often uncoordinated,

119. (B) Clear activity mapping and unified single window portals.
Effective multi-agency coordination is often hindered by departmental silos, overlapping jurisdictions, and frequent staff transfers. These factors create confusion and delays in project implementation. However, tools such as clear activity mapping and unified single window portals are designed specifically to overcome these barriers. By defining roles and simplifying administrative procedures, these mechanisms facilitate smoother communication and better cooperation among the various agencies involved in urban development.

120. (C) Lack of protocol and clearly mapped post-construction maintenance responsibilities.
Institutional failures often occur when there is no clear protocol for handing over infrastructure from a construction agency to a maintenance body. When a development authority builds a road but fails to formally transfer it to the municipality, the asset is neglected. This highlights the need for clearly mapped post-construction maintenance responsibilities and formal handover procedures to ensure service continuity.

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meets strict air and water quality standards to protect the surrounding urban environment and public health.

112. (A) Both A and R are true and R is the correct explanation of A.
There is a growing shift in India toward performance-linked grants for urban local bodies. By making funds conditional on specific outcomes, higher tiers of government can incentivize municipalities to undertake structural reforms that might be politically difficult at the local level. Rationalizing water tariffs and improving tax collection are common examples of reforms that are encouraged through these performance-based intergovernmental fiscal transfers.

113. (B) Linking PMAY housing with Ujjwala gas and AMRUT water supply.
Successful scheme convergence is demonstrated when multiple government programs are integrated to provide a holistic benefit to citizens. For example, linking the Pradhan Mantri Awas Yojana for housing with the Ujjwala scheme for clean fuel and the AMRUT mission for water supply ensures that new housing developments have all essential utilities from the start. This integrated approach improves the overall impact and efficiency of various urban development initiatives.

114. (A) P-2, Q-1, R-4, S-3
Coordination in urban development occurs at various hierarchical levels, each with its own appropriate body. At the metropolitan scale, planning is coordinated by the Metropolitan Planning Committee or a regional authority. The District Planning Committee handles coordination for the entire district. Within a city, the Mayor-in-Council or an SPV board provides leadership. At the micro-level, a Project Monitoring Cell ensures the successful execution of specific urban projects.

115. (C) Statement I is correct but Statement II is incorrect.
Parastatal agencies like water boards and development authorities are created to provide specialized technical expertise and manage large-scale urban infrastructure. While they offer financial and operational autonomy, their existence alongside elected local bodies can create coordination challenges. The 74th Amendment encourages strengthening local bodies, but it does not mandate the immediate dissolution of these specialized parastatals, which continue to play a major role in Indian urban governance.

116. (C) The TCP department issues daily plumbing and sanitation compliance certificates for every individual house.
The Town and Country Planning Department and urban local bodies have complementary roles in the building permission process. The TCP sets high-level zoning and FAR standards through the Master Plan, while the ULB ensures that individual plans follow local bye-laws. However, the TCP department does not involve itself in daily site-level details like issuing plumbing or sanitation certificates for every house. These micro-level administrative tasks are managed directly by the municipal corporation.

117. (A) Recommend aligning local bye-laws with stringent MoEF guidelines for protection.
When local municipal bye-laws conflict with national environmental guidelines, the more stringent environmental standards must generally be upheld to ensure ecological protection. In the case of buffer zones around lakes, a town planner should recommend aligning local regulations with the stricter national norms. This approach prioritizes environmental conservation and ensures that urban development is sustainable and compliant with the overarching legal framework for environmental protection.

118. (D) Enhancing skills and tools of municipal staff and improving institutional processes.
Capacity building under national urban missions like JNNURM and AMRUT is a strategic effort to improve the internal strength of local governments. This involves training municipal staff in modern administrative and technical skills, providing them with better tools like GIS and e-governance systems, and refining institutional processes. The goal is to make urban local bodies more capable of planning, implementing, and managing complex urban infrastructure and services independently.

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Assertion (A): Integrating comprehensive public participation in urban planning processes often increases the initial time required for plan preparation.
Reason (R): Public participation reduces the likelihood of subsequent litigation and community resistance during the implementation phase.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

7. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, what is the statutory minimum duration allowed for the public to file objections and suggestions after the publication of a draft development plan?
(A) 15 days
(B) 30 days
(C) 45 days
(D) 60 days

8. Which of the following is NOT classified under the "Degrees of Tokenism" in Arnstein's Ladder of Participation?
(A) Informing
(B) Consultation
(C) Therapy
(D) Placation

9. Consider the following statements regarding the mandatory participation provisions under the erstwhile JNNURM reforms:
1. It mandated the enactment of a Public Disclosure Law to ensure transparency in municipal operations.
2. It required the implementation of a Community Participation Law to institutionalize citizen engagement.
3. It mandated the dissolution of all existing Ward Committees to replace them with State-level planning boards.
4. It required the establishment of Area Sabhas to enable micro-level participation beneath the Ward level.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1, 2, and 4
(D) 1, 3, and 4

10. What is the most significant advantage of utilizing Participatory Rural Appraisal (PRA) tools in an urban informal settlement context?
(A) It empowers local residents to map their spatial resources and articulate needs through accessible, non-technical methods.
(B) It generates highly accurate, geo-referenced digital property maps for efficient municipal tax collection across the ward.
(C) It serves as a direct replacement for mandatory statutory public hearings during the official master plan approval process.
(D) It restricts technical decision-making power to municipal engineers and qualified urban planners within the administrative setup.

11. Arrange the following steps of the statutory public participation process for Master Plan preparation in chronological order:
1. Final publication of the approved Development Plan
2. Publication of the Draft Development Plan inviting objections
3. Declaration of intention to prepare a Development Plan
4. Hearing of objections and suggestions by the designated committee

(A) 3, 2, 4, 1
(B) 2, 3, 4, 1
(C) 3, 4, 2, 1
(D) 2, 4, 3, 1

12. In the context of Real Estate Regulatory Authority (RERA) provisions, how does the Act primarily ensure public empowerment and transparency?
(A) By mandating builders to hold weekly town hall meetings with all potential buyers to discuss project progress.
(B) By requiring mandatory disclosure of project details, layout plans, and statutory approvals on a public portal.
(C) By allowing the general public to vote on and alter the approved building designs during the construction phase.
(D) By compelling developers to allocate half of the total project housing to lower-income groups at zero cost.

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96. (C) MoU signed for formal colony handover to the nearest Urban Local Body for civic maintenance.
When a development authority completes a housing project, a transition in governance is required for daily maintenance. The standard institutional resolution is to sign a Memorandum of Understanding for the formal handover of the colony to the nearest urban local body. Once handed over, the municipality becomes responsible for providing civic services like waste management and streetlighting, while collecting local taxes from the residents.

97. (B) Formalize cooperation, asset handover, or cost-sharing for joint urban projects.
A Memorandum of Understanding between a development authority and an urban local body serves as a formal agreement to guide their cooperation. It is used to document the terms for asset handovers, define cost-sharing arrangements for joint projects, and clarify long-term maintenance responsibilities. This tool is essential for ensuring institutional harmony and preventing service gaps when projects transition from construction to operational phases.

98. (B) 1 and 3
Metropolitan coordination models are designed to manage planning and infrastructure across multiple municipal jurisdictions within a large urban region. These models are particularly effective for handling large-scale networks like metro rail and regional ring roads that exceed the boundaries of a single local body. While they provide integrated planning, they typically leave micro-level functions like minor building permissions to the individual urban local bodies.

99. (A) Incorporating TCP land-use zones into micro-level building permissions by the ULB.
In Madhya Pradesh, the coordination between the Town and Country Planning Department and the urban local body is most critical during the building permission process. The ULB must ensure that any permission it grants for individual buildings is consistent with the overarching land-use zones and zoning regulations established by the TCP in the city's Master Plan. This alignment is essential for maintaining organized urban development.

100. (A) Both A and R are true and R is the correct explanation of A.
Utility shifting is a major bottleneck in urban road projects, often leading to significant time and cost overruns. These delays are primarily caused by inaccurate records of underground infrastructure and a lack of coordination between constructing agencies and utility owners. Disputes over relocation costs and technical alignments frequently stall projects, highlighting the need for unified utility mapping and better inter-agency planning protocols.

101. (A) Team tracking milestones, quality, and coordinating contractors and government.
A Project Monitoring Cell is a specialized team within an urban project's administrative structure. Its primary role is to track project milestones, ensure quality control, and maintain effective communication between contractors and government departments. By providing continuous oversight and reporting, the PMC helps identify potential delays early and ensures that the project is executed according to the approved technical specifications and timelines.

102. (A) P-4, Q-3, R-2, S-1
Urban projects require a series of formal clearances from various nodal agencies. The SEIAA handles environmental clearances, while the Town and Country Planning department manages approvals for land-use changes. Fire safety certificates are issued by the local or state fire department. For matters related to land ownership and mutation records, developers and municipalities must coordinate with the state's revenue department to ensure legal compliance.

103. (A) Both Statement I and Statement II are correct.
Intergovernmental fiscal transfers come in two main types based on their usage rules. Conditional grants are tied to specific sectors or projects, and recipient local bodies must spend them as mandated. Unconditional grants provide the municipality with much greater flexibility, allowing local leaders to allocate the funds based on their own priorities, such as covering administrative costs or addressing urgent local maintenance needs.

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(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

19. In the context of Madhya Pradesh, the implementation of the PESA (Panchayats (Extension to Scheduled Areas)) Rules primarily empowers which grassroots institution regarding local resource planning and dispute resolution?
(A) Gram Sabha
(B) Janpad Panchayat
(C) Zila Parishad
(D) State Planning Commission

20. Which of the following is NOT generally considered a tool or methodology of Participatory GIS (PGIS)?
(A) Sketch mapping of local resources performed manually by community members.
(B) Community-led data collection using handheld GPS devices for spatial accuracy.
(C) Automated satellite image classification performed via artificial intelligence algorithms.
(D) Interactive 3D physical models incorporating local spatial and historical knowledge.

21. Consider the following statements regarding the role of City Development Committees / Citizens' Committees in urban planning:
1. They act as advisory bodies integrating diverse stakeholder views into city development plans.
2. They possess the statutory power to veto the State Government's financial budget for the city.
3. They help in prioritizing infrastructure projects based on felt community needs.
4. They completely replace the executive functions of the elected municipal council.

Which of the above statement(s) is/are correct?
(A) 1 and 2
(B) 1 and 3
(C) 2 and 4
(D) 3 and 4

22. What is the most effective approach a Town Planner can use to ensure meaningful youth and student engagement in the city planning process?
(A) Confining all consultations to business hours on weekdays at the municipal planning headquarters.
(B) Mandating registered property ownership as a prerequisite for participating in consultation sessions.
(C) Publishing lengthy technical gazette notifications and awaiting written feedback from the public.
(D) Utilizing digital platforms, social media, and integrating planning workshops within university curricula.

23. Which of the following pairs of Participatory Rural Appraisal (PRA) tools and their primary urban application is correctly matched?
(A) Transect Walk – Analyzing long-term demographic census data
(B) Seasonal Calendar – Identifying periods of high waterlogging or disease outbreaks in a settlement
(C) Venn Diagram – Mapping the physical elevation and contours of an urban terrain
(D) Resource Map – Outlining the complex administrative hierarchy of the Urban Development Department

24. According to the 74th Constitutional Amendment Act, 1992, Ward Committees must be constituted in municipalities having a population of three lakhs or more. Which Article of the Constitution mandates this?
(A) Article 243R
(B) Article 243S
(C) Article 243T
(D) Article 243W

25. In stakeholder analysis, a stakeholder placed in the "High Power, Low Interest" quadrant of the Power-Interest matrix should be managed by which strategy?
(A) Manage Closely
(B) Keep Informed
(C) Monitor (Minimum Effort)
(D) Keep Satisfied

26. Read the following statements regarding stakeholder consultation methods:
Statement I: The Delphi method involves

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public transport
(D) The Municipal Commissioner

81. Consider the following best practices for conducting Key Informant Interviews (KIIs) in urban research:
1. Selecting interviewees based on their specialized knowledge of the community.
2. Using a rigid, unchangeable questionnaire to prevent any tangential conversation.
3. Allowing the interview to flow conversationally to uncover unexpected insights.
4. Triangulating the information gathered from KIIs with secondary data.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 4

82. What is the primary use of Multi-Stakeholder Forums in urban governance?
(A) To bypass the elected municipal council and take immediate executive decisions on urban projects.
(B) To act as a specialized municipal court for punishing various local building code violations.
(C) To centralize all municipal tax collections under a single state-level administrative body.
(D) To create a collaborative environment where different sectors can build consensus on urban issues.

83. Arrange the typical evolutionary phases of e-governance implementation in public administration in chronological order:
1. Transactional Phase (two-way interaction, payments, and service delivery)
2. Connected/Integrated Phase (seamless data sharing across departments)
3. Computerization Phase (digitizing internal records)
4. Information Phase (publishing basic information on websites)

(A) 3, 4, 1, 2
(B) 4, 3, 2, 1
(C) 3, 1, 4, 2
(D) 4, 1, 3, 2

84. The core purpose of conducting a "Town Hall meeting" during the master plan preparation process is to:
(A) To legally prosecute citizens who have encroached on public land within municipal limits.
(B) To conduct technical environmental impact assessments for large-scale industrial projects.
(C) To provide an open forum for planners to present proposals and allow the public to ask questions.
(D) To finalize the municipal property tax rates for the upcoming fiscal year in a closed session.

85. In the context of e-governance in India, CPGRAMS stands for:
(A) Centralized Public Grievance Redress and Monitoring System
(B) Citizen Portal for Governance, Rights and Municipal Services
(C) Central Planning for GIS and Regional Administration Management System
(D) Committee for Public Grievance, Revenue and Municipal Statutes

86. Read the following statements regarding Open Data Portals:
Statement I: Open Data Portals provide public access to machine-readable urban datasets to foster transparency and civic innovation.
Statement II: Open Data Portals actively publish the private financial data and personal contact information of all citizens to ensure full transparency.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

87. Match the specific Madhya Pradesh portals/ systems in List I with their primary domains in List II:
List I: Portals/Systems
P. MP Online
Q. e-Nagarpalika
R. MP RERA Portal
S. CM Helpline 181
List II: Domains

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loops from various project stakeholders.
(C) Conducting sessions asynchronously over several months without face-to-face interaction.
(D) Aiming to produce a finalized, feasible design or specific master plan component.

33. Consider the following steps involved in stakeholder mapping and analysis:
1. Brainstorming and identifying all potential stakeholders impacted by the project.
2. Categorizing stakeholders using the Power-Interest Matrix.
3. Excluding stakeholders who express negative views about the project.
4. Developing specific engagement strategies for each stakeholder quadrant.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

34. What is the primary advantage of using the Delphi method for expert consultation in long-term urban policy formulation?
(A) Encouraging loud verbal debate to stimulate creative friction among the participating panel.
(B) Acting as the fastest available method for gathering public opinion on immediate civic issues.
(C) Eliminating the need for any statistical analysis of the qualitative responses provided by experts.
(D) Allowing for anonymous, iterative input to minimize the dominance of vocal or authoritative individuals.

35. Arrange the following steps for conducting a formal Focus Group Discussion (FGD) in chronological order:
1. Conduct the FGD using a trained facilitator
2. Develop the discussion guide and questions
3. Analyze the transcripts and synthesize findings
4. Define the research objectives and identify target participant profiles

(A) 4, 2, 1, 3
(B) 2, 4, 1, 3
(C) 4, 1, 2, 3
(D) 2, 1, 4, 3

36. A multi-stakeholder platform (MSP) in urban governance is best defined as:
(A) A software application used solely for tracking municipal property taxes and internal administrative revenue.
(B) A political committee tasked with drafting the manifesto for local body elections and party campaigns.
(C) A forum bringing together government, private sector, and civil society to address shared urban challenges.
(D) An exclusive network of real estate developers aiming to influence land use policies and zoning regulations.

37. In the context of e-governance tools in planning, what is "AutoDCR"?
(A) A software solution that checks CAD drawings for compliance with local building bye-laws.
(B) An automated digital currency used for municipal transactions and payment of state levies.
(C) A satellite imagery database for tracking illegal encroachments on public and government land.
(D) A portal designed for registering citizen complaints regarding daily solid waste management services.

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38. Read the following statements regarding the National e-Governance Plan (NeGP):
Statement I: The NeGP was established to make all government services accessible to the common man in his locality through common service delivery outlets.
Statement II: Urban governance and municipalities were completely excluded from the NeGP framework to maintain local autonomy.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

39. Match the e-governance platforms/tools in List I with their primary functions in List II:
List I: Platforms/Tools

Reason (R): The final decision on environmental clearance rarely incorporates substantial changes based on community feedback gathered during the hearings.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

67. In the context of Madhya Pradesh, the MP RERA (Real Estate Regulatory Authority) portal facilitates public participation and transparency primarily by:
(A) Providing public access to data on registered real estate projects, promoters, and agents.
(B) Allowing citizens to digitally design and simulate their own houses using 3D modeling tools.
(C) Permitting public voting on which real estate projects should be granted building permission.
(D) Enabling direct online bidding for municipal land auctions and commercial property leases.

68. Which of the following is NOT typically used as a method for Community Needs Assessment?
(A) SWOT Analysis workshops with community members
(B) Focus Group Discussions (FGDs) with vulnerable groups
(C) Topographical land surveys using Total Stations
(D) Asset Mapping by local youth

69. Consider the following statements regarding Community Mapping as a participatory tool:
1. It relies on local residents drawing spatial representations of their neighborhoods.
2. It visually highlights community assets, hazards, and infrastructure gaps.
3. It requires high-end satellite programming skills from the participants.
4. It helps validate official municipal data against ground realities.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

70. What is often the most common reason for the general public's apathy or low participation during the preparation of a statutory Master Plan?
(A) Master Plans are usually written in easily understandable local languages for all residents.
(B) Citizens generally have no interest in how their city develops over the next twenty years.
(C) The planning process is typically completed within a few days, giving the public no time to react.
(D) Technical planning jargon and complex land-use maps make the process inaccessible to laypersons.

71. Which of the following pairs concerning Arnstein's Ladder is correctly matched?
(A) Manipulation – Citizen Power
(B) Delegated Power – Citizen Power
(C) Consultation – Non-participation
(D) Partnership – Tokenism

72. Under the JNNURM reform agenda, what was the primary aim of the mandatory 'Community Participation Law'?
(A) To mandate a fifty percent reservation for women in all state legislative assemblies.
(B) To privatize solid waste management services across all million-plus cities in India.
(C) To institutionalize citizen participation through the creation of Area Sabhas and Ward Committees.
(D) To ensure that local communities participate physically in the construction of national highways.

73. A "Visual Preference Survey" in urban planning is best defined as a method where:
(A) Citizens provide verbal feedback over a community radio broadcast regarding urban design.
(B) Drones are used by the traffic department to monitor congestion at peak transit hours.
(C) Municipal officials visually inspect private buildings for structural safety and code compliance.

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project data on a centralized portal.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

46. What is often cited as the biggest challenge to the effective implementation of participatory e-governance tools in Indian urban planning?
(A) Excessive internet speeds that frequently overload government servers during peak hours.
(B) The lack of sophisticated satellite technology required to host municipal web services.
(C) The digital divide, which marginalizes low-income and digitally illiterate populations.
(D) The over-enthusiasm of citizens leading to excessive feedback that slows administrative action.

47. Which of the following pairs of e-governance portals and their specific uses is INCORRECTLY matched?
(A) CPGRAMS – Centralized public grievance redressal
(B) e-Nagarpalika – Integrated municipal administration in MP
(C) RERA Portal – Transparency in real estate projects
(D) AutoDCR – Online birth and death registration

48. Which of the following was identified as a Mission Mode Project (MMP) specifically targeting local government under the National e-Governance Plan (NeGP)?
(A) e-Courts for judicial administration
(B) e-Passport for national travel documents
(C) e-Panchayat / e-Municipality
(D) e-Biz for commercial regulations

49. Under the Right to Information (RTI) Act 2005, if the information sought concerns the life or liberty of a person, the Public Information Officer (PIO) must provide the information within:
(A) 24 hours
(B) 48 hours
(C) 7 days
(D) 30 days

50. Read the following statements regarding audit mechanisms in urban governance:
Statement I: A social audit involves the community directly verifying the physical execution and financial expenditure of local projects.
Statement II: A statutory financial audit is conducted by citizen volunteers without requiring formal accounting credentials.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

51. Match the audit types in List I with their primary focus areas in List II:
List I: Audit Types
P. Internal Audit
Q. CAG Audit
R. Social Audit
S. Performance Audit
List II: Focus Areas
1. Conducted by the supreme constitutional audit institution to check propriety and compliance of government expenditure
2. Participatory verification of project deliverables and expenditures by the beneficiary community
3. Routine financial checks conducted periodically by the organization's own staff
4. Evaluation focusing on whether an organization achieved its intended outcomes efficiently and effectively
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-1, R-3, S-4

52. Which statement correctly describes the methodology of "Citizen Report Cards" (CRCs)?
(A) Secret dossiers maintained by the police to track the criminal records and activities of citizens.
(B) Standardized grading sheets issued by schools under municipal jurisdiction for academic records.
(C) Participatory surveys used to gather organized feedback regarding the quality of public services.
(D) Mandatory identity cards issued to residents

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P. Online Building Plan Approval System (OBPAS)
Q. GIS-based Property Tax System
R. CPGRAMS
S. Open Data Portal

List II: Primary Functions

1. Public grievance redressal and monitoring
2. Providing unrestricted access to non-sensitive government datasets
3. Streamlining the scrutiny and sanctioning of construction permits
4. Enhancing municipal revenue by spatial mapping of unassessed properties

(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-2, R-3, S-4

40. Which of the following statements about the 'MP Online' portal is INCORRECT?
(A) It acts as a unified portal for delivering various citizen services across Madhya Pradesh.
(B) It allows citizens to apply for utility connections and pay municipal taxes.
(C) It is designed exclusively for the use of state government employees and restricts public access.
(D) It serves as a single window for accessing e-governance services of various state departments.

41. A Municipal Commissioner wants to increase the city's property tax revenue without raising the tax rates. Which e-governance intervention is most competent to achieve this goal?
(A) Implementing an AutoDCR system for the automated scrutiny of new building approval applications.
(B) Launching a grievance redressal application like 311 for efficient reporting of civic issues.
(C) Establishing a centralized online birth and death registration system for all urban residents.
(D) Undertaking GIS-based property tax mapping to identify unassessed and under-assessed properties.

42. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):

Assertion (A): The implementation of an Online Building Plan Approval System (OBPAS) significantly reduces subjective human discretion in plan scrutiny.

Reason (R): The system utilizes automated rule engines to check architectural drawings against standardized municipal building bye-laws.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

43. In Madhya Pradesh, the 'e-Nagarpalika' system is best described as:
(A) A central government scheme to fund large-scale urban transportation and metro projects.
(B) An integrated ERP solution designed to computerize the operations of all Urban Local Bodies.
(C) A specialized state tribunal set up to handle disputes between mayors and commissioners.
(D) A state-level urban planning and research institute located in the city of Bhopal.

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44. Which of the following is NOT an objective of the National Urban Real Time Governance System (NURTGIS)?
(A) To provide real-time monitoring of urban infrastructure projects
(B) To centralize all urban local body elections under the Election Commission of India
(C) To support data-driven decision-making in urban planning and management
(D) To create an integrated dashboard for observing key performance indicators of cities

45. Consider the following statements regarding the Management Information System (MIS) utilized under the AMRUT mission:

1. It tracks the physical and financial progress of urban infrastructure projects.
2. It facilitates the monitoring of urban reform milestones achieved by states and ULBs.
3. It completely eliminates the need for statutory financial audits by the CAG.
4. It relies on states continuously updating

(C) 1, 2, 3, 4
(D) 2, 1, 4, 3

60. In the context of Indian municipal governance, which constitutional authority is fundamentally responsible for laying down the guidelines for the external audit of Urban Local Bodies?
(A) The Ministry of Housing and Urban Affairs
(B) The Comptroller and Auditor General (CAG) of India
(C) The Reserve Bank of India
(D) The National Institution for Transforming India (NITI Aayog)

61. In the context of Arnstein's Ladder, 'Placation' is a level where:
(A) Citizens are allowed to advise, but power holders retain the right to judge the advice.
(B) Citizens hold the majority of seats on committees with delegated powers to make final decisions.
(C) Citizens are completely ignored, and planners decide everything without any external consultation.
(D) Citizens are merely informed of their rights without any formal channel provided for feedback.

62. Read the following statements regarding the IAP2 Spectrum of Public Participation:
Statement I: The "Collaborate" level involves partnering with the public in each aspect of the decision-making process.
Statement II: The "Consult" level requires delegating final decision-making power entirely to the community.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

63. Match the levels of public participation in List I with their real-world practical examples in List II:
List I: Participation Levels
P. Inform
Q. Consult
R. Involve
S. Empower
List II: Practical Examples
1. Conducting public hearings to gather feedback on a draft master plan
2. Establishing a citizen advisory board that helps shape alternatives for a zoning code update
3. Publishing a notice in a local newspaper about a road closure
4. Citizen juries making a binding decision on the allocation of a neighborhood grant fund
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-1, R-3, S-4

64. Which of the following statements regarding challenges to public participation is INCORRECT?
(A) "Elite capture" occurs when socially or economically powerful groups dominate participatory forums to serve their own interests.
(B) Low literacy levels can severely restrict meaningful engagement in technical planning processes.
(C) Holding public consultations strictly during daytime working hours increases the participation of daily wage laborers.
(D) A lack of prior awareness about the planning process often results in low public turnout.

65. A town planner is organizing a Mohalla Meeting to decide the location of a new community toilet. To prevent 'elite capture' by dominant local landlords, which strategy is most effective?
(A) Allowing only registered property owners to vote on the final location of the utility.
(B) Ensuring facilitation that draws out opinions from marginalized groups and women.
(C) Canceling the meeting and deciding the location unilaterally from the central municipal office.
(D) Conducting the entire meeting and documentation process exclusively in the English language.

66. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Environmental Public Hearings under the EIA Notification are often criticized as being merely procedural.

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to verify their eligibility for voting in elections.

53. A citizen registers a complaint on the CM Helpline 181 in Madhya Pradesh regarding an overflowing sewer line. If the local sanitary inspector fails to resolve the issue within the stipulated time, what is the automated administrative consequence within the system?
(A) The grievance automatically escalates to the next higher level of authority (L2).
(B) The complaint is permanently closed and deleted from the system.
(C) The citizen is fined for filing an unresolved complaint.
(D) The sanitary inspector is immediately suspended without notice.

54. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Strong whistleblower protection frameworks are essential for improving transparency in urban governance.
Reason (R): Whistleblower protection encourages municipal employees and citizens to report corrupt practices without fear of administrative or physical retaliation.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

55. The 'CM Helpline 181' grievance redressal mechanism in Madhya Pradesh operates on a structured escalation matrix. How many levels of escalation (from local officer to state department head) are typically structured in this system?
(A) 2
(B) 3
(C) 4
(D) 6

56. Which of the following is NOT typically part of standard public disclosure norms mandated for Urban Local Bodies (ULBs)?
(A) Publication of the annual financial statements and audit reports
(B) Publication of civic service levels and benchmark performance
(C) Disclosure of the personal bank account details of all municipal taxpayers
(D) Details of all municipal contracts awarded and their values

57. Consider the following indicators that are often included in a Municipal Accountability Index:
1. Frequency of public disclosure of municipal budgets
2. Effectiveness and speed of the grievance redressal mechanism
3. Extent of community participation in ward committee meetings
4. The personal asset declarations of the citizens

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 4

58. What is the core purpose of conducting Public Expenditure Tracking Surveys (PETS) in urban governance?
(A) Tracing public funds from allocation to service delivery to identify financial leakages.
(B) Tracking the daily commute patterns and field visits of senior municipal officials.
(C) Measuring the total amount of money citizens spend on private healthcare services.
(D) Evaluating the long-term environmental impact of municipal infrastructure spending.

59. Arrange the typical stages of a grievance processed through the CM Helpline 181 system in chronological order:
1. Level 1 officer provides a resolution or clarification
2. Citizen registers a complaint via the toll-free number
3. If unsatisfied or unresolved, grievance escalates to Level 2/3
4. Citizen receives a closure confirmation call to verify satisfaction

(A) 2, 1, 3, 4
(B) 2, 3, 1, 4

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(D) Participants rate images of built environments to gauge aesthetic and functional preferences.

74. Read the following statements regarding survey methodologies:
Statement I: A structured survey uses a strict sequence of closed-ended questions, ensuring easily quantifiable data.
Statement II: A semi-structured survey relies exclusively on multiple-choice questions without allowing any open-ended discussion.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

75. Match the stakeholder profiles in List I (based on Power/Interest Matrix) with the recommended engagement strategy in List II:
List I: Stakeholder Profiles
P. High Power, High Interest
Q. High Power, Low Interest
R. Low Power, High Interest
S. Low Power, Low Interest
List II: Engagement Strategies
1. Keep Satisfied
2. Monitor (Minimum effort)
3. Manage Closely
4. Keep Informed
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-4, Q-1, R-2, S-3

76. Which statement accurately describes "Intercept surveys" in the context of urban planning consultation?
(A) Long, multi-hour interviews conducted at a citizen's residence for deep qualitative data.
(B) Approaching individuals in public spaces for brief, on-the-spot feedback on urban issues.
(C) Purely digital surveys that intercept a user's internet browsing session through popup ads.
(D) Used exclusively by traffic authorities to intercept and penalize various road violators.

77. A town planner wishes to present multiple complex design alternatives for a new riverfront development to the public. The planner wants citizens to browse the designs at their own pace and converse informally with the planning team. Which method is most appropriate?
(A) An Open House exhibition
(B) A formal judicial public hearing
(C) A standardized postal questionnaire
(D) A closed-door focus group discussion

78. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Online consultation platforms drastically reduce the cost of gathering public feedback on planning documents.
Reason (R): Sole reliance on online platforms can exclude marginalized populations due to the digital divide and lack of internet access.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

79. During the planning of large-scale urban religious corridors in Madhya Pradesh, such as the Mahakal Lok in Ujjain, stakeholder consultation predominantly involves engaging with which specific group alongside local residents?
(A) International IT conglomerates looking to establish large data centers in the region.
(B) Maritime port authorities managing coastal trade and industrial shipping logistics.
(C) Heavy manufacturing industrial unions seeking to expand production plant capacities.
(D) Temple trusts, local priests, and floating pilgrim populations in the project area.

80. In an urban planning context analyzing a new Bus Rapid Transit System (BRTS), which of the following stakeholders is least likely to possess "High Power" in the Power-Interest matrix?
(A) The State Transport Department
(B) International funding agencies (e.g., World Bank)
(C) Daily wage laborers who commute via

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gathering experts in a single room to debate a topic until a spontaneous consensus is reached.
Statement II: A Charrette is an intensive, multi-day collaborative design workshop involving various stakeholders to solve specific spatial problems.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

27. Match the consultation methods in List I with their key characteristics in List II:
List I: Consultation Methods
P. Focus Group Discussion (FGD)
Q. Intercept Survey
R. Visual Preference Survey
S. Town Hall Meeting
List II: Key Characteristics
1. A large public gathering allowing open, unstructured feedback from the general community
2. Asking participants to rate photographs of different streetscapes or building types
3. A guided conversation with a small, carefully selected group of individuals (6-12 people)
4. Stopping pedestrians in public spaces to ask a brief series of questions
(A) P-3, Q-4, R-2, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-3, R-1, S-2

28. Which of the following statements correctly describes Key Informant Interviews (KIIs) in community needs assessment?
(A) Quantitative surveys administered randomly to thousands of city residents for demographic data.
(B) In-depth interviews conducted with individuals who have specialized knowledge or deep community understanding.
(C) Structured sessions limited strictly to the questioning of elected political leaders and executives.
(D) Closed-ended questionnaires with fixed response categories that allow no scope for open discussion.

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29. A town planner needs to conduct a needs assessment for upgrading basic services in an economically weaker section (EWS) neighborhood characterized by low digital literacy. Which consultation method is most appropriate?
(A) Conducting guided transect walks and Focus Group Discussions within the local neighborhood.
(B) Launching an online consultation portal with a downloadable feedback form for all residents.
(C) Emailing structured survey links to residents to be filled out on personal mobile devices.
(D) Utilizing the Delphi method with a panel consisting strictly of national urban policy experts.

30. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): In stakeholder consultation, Focus Group Discussions (FGDs) are typically limited to 6 to 12 participants.
Reason (R): Keeping the group size small ensures that every participant has adequate opportunity to share their perspectives while maintaining a manageable group dynamic.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

31. In Madhya Pradesh, which national citizen engagement platform has been extensively customized and utilized by the Smart City SPVs (like Bhopal and Indore) for online crowdsourcing of ideas and stakeholder consultation?
(A) PRAGATI
(B) Vahan
(C) e-Courts
(D) MyGov

32. Which of the following is NOT a characteristic of a design Charrette?
(A) Spanning over multiple consecutive days of intensive, collaborative spatial design work.
(B) Incorporating several iterative feedback

1. Integrated grievance redressal mechanism across all state departments
2. Unified platform for citizen services, exam forms, and utility payments
3. Real estate project registration and buyer dispute resolution
4. Comprehensive ERP suite for urban local body administration

(A) P-2, Q-4, R-3, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-3, R-4, S-1
(D) P-4, Q-1, R-2, S-3

88. Which of the following statements about GIS-based property tax management systems is INCORRECT?
(A) They link property tax records with physical spatial footprints of buildings.
(B) They help in identifying properties that are unassessed or under-assessed.
(C) They eliminate the legal requirement for citizens to pay property tax.
(D) They typically use high-resolution satellite imagery or drone surveys as base maps.

89. A municipality is shifting from a paper-based to an online Birth and Death Registration system. What is the most crucial competency required to ensure seamless transition without causing public distress?
(A) Destroying all old paper records immediately to free up administrative office space.
(B) Making it mandatory for citizens to purchase a computer to access digital certificates.
(C) Outsourcing the process to a private vendor without maintaining any government backup.
(D) Migrating legacy data accurately while maintaining a hybrid system during the transition.

90. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): The adoption of the National Municipal Accounting Manual (NMIS) and double-entry accounting in ULBs enhances financial transparency.
Reason (R): Double-entry accounting provides a clear picture of municipal assets, liabilities, and actual financial health compared to single-entry cash-based systems.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

91. In Madhya Pradesh, an entrepreneur wishes to start a new commercial shop in an urban area. Under the e-Nagarpalika framework, how can they obtain a trade license?
(A) They must physically travel to the State Secretariat in Bhopal to file the application.
(B) They can apply, upload documents, and pay the fee online through the citizen portal.
(C) They must obtain a physical signature from the Chief Minister for commercial operations.
(D) Trade licenses have been completely abolished in Madhya Pradesh urban areas for shops.

92. Which of the following is NOT a typical feature of an Online Building Plan Approval System (OBPAS)?
(A) Automated calculation of application fees and development charges
(B) Automatic remote-controlled demolition of unauthorized structures
(C) Digital signature integration for architects and planners
(D) SMS and email alerts for application status tracking

93. Consider the following components that are central to the e-governance framework under the Smart Cities Mission:
1. Integrated Command and Control Centers (ICCC)
2. Smart solid waste management using RFID/GPS tracking
3. Dissolution of elected municipal councils to favor corporate boards
4. Centralized citizen engagement apps (e.g., city-specific 311 apps)

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

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94. What is the greatest benefit of implementing Open Data Portals for urban planning data?
(A) It generates high revenue through the sale of basic demographic data to private firms.
(B) It ensures that planning data remains locked away from potential political interference.
(C) It enables researchers and the public to analyze data and develop solutions to urban problems.
(D) It replaces the need for the use of geographic information systems (GIS) in municipalities.

95. Which of the following pairs of e-governance services and their corresponding target users is INCORRECTLY matched?
(A) AutoDCR – Architects and Town Planners
(B) CM Helpline 181 – General Citizens and Grievants
(C) MP RERA Portal – Homebuyers and Real Estate Promoters
(D) NMIS (Municipal MIS) – Daily wage laborers seeking employment

96. The "311" mobile application model, widely adopted in various Indian cities, primarily functions as a tool for:
(A) Booking inter-state railway tickets and checking live train status for commuters.
(B) Registering political parties for local body elections and managing candidate files.
(C) Non-emergency municipal service requests and reporting civic issues like potholes or garbage.
(D) Monitoring real-time stock market fluctuations and managing personal financial portfolios.

97. In municipal governance, the institution of an "Ombudsman" is best defined as:
(A) The head of the municipal accounts department responsible for internal financial records.
(B) An independent official appointed to investigate citizen complaints against maladministration.
(C) A private contractor hired for the collection and disposal of municipal solid waste.
(D) The presiding officer of the state legislative assembly in charge of legislative sessions.

98. Read the following statements regarding performance-based grants:
Statement I: Central Finance Commissions often tie a portion of grants to ULBs based on their performance in implementing audited accounts and revenue enhancement.
Statement II: Performance-based grants discourage ULBs from modernizing their financial systems, as the grants are given unconditionally.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

99. Match the transparency/accountability mechanisms in List I with their primary functions in List II:
List I: Accountability Mechanisms
P. Section 4 of RTI Act (Suo Motu disclosure)
Q. Vigilance Committees
R. Public Expenditure Tracking
S. Annual Reports
List II: Primary Functions
1. Tracing the flow of budgeted funds to the actual delivery point
2. Proactively publishing administrative information without waiting for a citizen request
3. Formal documentation of a ULB's yearly physical and financial achievements
4. Monitoring local project execution to deter corrupt practices
(A) P-2, Q-4, R-1, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-4, S-3

100. Which statement correctly identifies a key mandate of Section 4 of the Right to Information Act, 2005, regarding urban local bodies?
(A) ULBs must classify all town planning documents as protected state secrets for security.
(B) ULBs must only provide information if an applicant pays a minimum processing fee of Rs. 5000.
(C) ULBs must proactively publish information regarding their functions, budget, and subsidy programs.

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(D) ULBs are completely exempt from the provisions of the Right to Information Act, 2005.

101. A planner wants to evaluate citizen satisfaction with the new decentralized solid waste management system. Which approach is most suitable for conducting a Citizen Report Card (CRC) survey?
(A) Administering a standardized questionnaire to a representative sample of households in wards.
(B) Interviewing only the municipal sweeping staff regarding their daily operational duties.
(C) Analyzing the internal financial audit report of the waste management department for accuracy.
(D) Asking the Mayor to write a subjective report on the successes of the current waste system.

102. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): The implementation of OBPAS (Online Building Plan Approval System) acts as a strong anti-corruption measure in plan approvals.
Reason (R): OBPAS minimizes physical interface between applicants and officials and reduces subjective discretion through automated rule-checking.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

103. In Madhya Pradesh, the provisions for institutionalizing 'Social Audit' at the grassroots level (often applicable in peri-urban and rurban areas) are legally embedded through which Act?
(A) MP Municipal Corporation Act, 1956
(B) MP Panchayati Raj evam Gram Swaraj Adhiniyam, 1993
(C) MP Nagar Tatha Gram Nivesh Adhiniyam, 1973
(D) MP Land Revenue Code, 1959

104. Which of the following is NOT a typical function of local vigilance committees in urban governance?
(A) Monitoring the quality of construction materials used in local public works
(B) Reporting instances of bribery or misuse of funds to higher authorities
(C) Adjudicating criminal trials and sentencing offenders to prison
(D) Ensuring that subsidized rations or public benefits reach the intended beneficiaries

105. Consider the following steps for implementing Service Scorecards in urban local bodies:
1. Identifying key performance indicators (KPIs) for various municipal services (e.g., water supply, sanitation).
2. Collecting data on actual service delivery against the established KPIs.
3. Keeping the scorecard results confidential to protect the municipality's image.
4. Publishing the scorecard to foster civic accountability and healthy competition among wards.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

106. What is the most effective administrative deterrent against arbitrary or malafide rejections of building plans by municipal officers?
(A) Mandating that all reasons for rejection be documented in writing and shared through an online system.
(B) Transferring the officer to a different administrative department after ten years of service.
(C) Increasing the standard application fee for building plans to discourage frivolous submissions.
(D) Allowing citizens to submit building plans without the need for any formal architectural drawings.

107. Arrange the standard chronological timeline of processes under the Right to Information (RTI) Act, 2005:
1. Submission of RTI Application to the Public Information Officer (PIO)

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placation, are described as degrees of tokenism. These stages allow citizens to hear and be heard but lack the actual power to ensure that their views will be heeded by officials.

9. (C) 1, 2, and 4
The Jawaharlal Nehru National Urban Renewal Mission introduced significant urban reforms to enhance governance. These included the Public Disclosure Law and the Community Participation Law to institutionalize transparency. Furthermore, the reforms encouraged the establishment of Area Sabhas at the micro-level, below ward committees. These measures were designed to deepen democracy by ensuring that citizens have a structured role in urban management.

10. (A) It empowers local residents to map their spatial resources and articulate needs through accessible, non-technical methods.
Participatory Rural Appraisal tools are highly effective in urban informal settlements because they utilize visual and non-technical methods. These techniques allow residents, regardless of their literacy levels, to map local resources and identify spatial gaps. By articulating their needs through such accessible approaches, the community becomes empowered to participate actively in the planning and upgrading of their local environment.

11. (A) 3, 2, 4, 1
The statutory process for creating a Master Plan follows a logical sequence to ensure legality and transparency. It begins with the formal declaration of intention to prepare the plan. Subsequently, a draft development plan is published to invite public feedback. After hearing objections and suggestions before a designated committee, the process concludes with the final publication of the officially approved document.

12. (B) By requiring mandatory disclosure of project details, layout plans, and statutory approvals on a public portal.
The Real Estate Regulatory Authority Act enhances transparency and protects consumer interests in the housing sector. It mandates that developers disclose essential project information on a centralized public portal. This includes detailed layout plans, statutory approvals, and progress reports. By providing access to such verified data, the act empowers homebuyers to make informed decisions and ensures accountability within the industry.

13. (A) An assembly of all registered voters residing in the geographical area of polling booths within a municipal ward.
An Area Sabha represents the most localized tier of citizen participation within the urban governance framework. It consists of all registered voters living within a specific geographical area, typically defined by polling booth boundaries inside a municipal ward. This institution enables micro-level engagement, allowing residents to discuss neighborhood issues and influence local development projects directly at the grassroots level.

14. (D) Statement I is false but Statement II is true
The 74th Constitutional Amendment Act stipulates that Ward Committees must be established in municipalities with a population of three lakhs or more. Consequently, they are not mandatory for smaller urban bodies. These committees play a crucial role in bringing governance closer to citizens. Their primary functions involve facilitating localized grievance redressal and conducting participatory micro-planning to address neighborhood needs.

15. (A) P-3, Q-4, R-1, S-2
Various community engagement entities play distinct roles in urban development. Resident Welfare Associations focus on managing neighborhood amenities for middle-class groups. Self-Help Groups are essential for micro-finance and livelihood generation in low-income areas. Mahila Mandals promote women's participation in civic issues. Finally, Civil Society Organizations provide institutional capacity building and technical advocacy for marginalized populations, bridging the gap with governance.

16. (C) Tenure security is typically irrelevant to the willingness of slum dwellers to participate in upgrading initiatives.
Meaningful participation in slum upgrading projects requires an understanding of community motivations and needs. Residents are often willing to contribute labor or capital when they feel a sense of ownership. However,

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(A) Disabling the system entirely to prevent potential data privacy breaches and hacking.
(B) Using real-time traffic and utilities data to dynamically adjust zoning and infrastructure planning.
(C) Relying exclusively on twenty-year-old census data instead of modern real-time data dashboards.
(D) Using the dashboard solely to monitor the daily attendance of municipal street sweeping staff.

114. Consider the following two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Community Needs Assessments often yield different development priorities compared to top-down, expert-driven planning.
Reason (R): Experts rely on macro-level statistical data and standardized norms, whereas communities base their priorities on localized, daily lived experiences.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

115. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, after the publication of the Draft Development Plan, to whom are the public objections and suggestions typically submitted for hearing?
(A) A committee constituted by the State Government specifically to hear objections
(B) The High Court of Madhya Pradesh
(C) The President of India
(D) The local Superintendent of Police

116. Which of the following factors does NOT typically contribute to "elite capture" in participatory urban governance?
(A) Extreme socio-economic inequality within the community
(B) Highly technical and jargon-heavy planning documents
(C) Active and skilled facilitation targeting the inclusion of marginalized voices
(D) Holding meetings in locations inaccessible to the urban poor

117. Consider the following benefits of participatory budgeting (a mechanism related to social accountability):
1. It increases public transparency regarding how municipal revenues are spent.
2. It empowers ordinary citizens to have a direct say in local resource allocation.
3. It guarantees a surplus in the municipal budget every financial year.
4. It helps align neighborhood infrastructure investments with genuine community needs.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

118. What is the core philosophy behind the IAP2 (International Association for Public Participation) spectrum?
(A) All public participation must eventually lead to total citizen control over state resources.
(B) Public participation should be restricted to providing information, leaving decisions to officials.
(C) Participation processes must always be outsourced to international urban planning consultants.
(D) Participation levels should vary based on the goals, resources, and impact of the decision.

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119. Which of the following pairs concerning the stages of Environmental Public Hearing is correctly matched?
(A) Notice Period – 7 days prior to the hearing
(B) Minutes of the meeting – A publicly available document of all concerns raised
(C) Venue – The state capital, regardless of project location
(D) Presiding Officer – The CEO of the private company proposing the project

120. If a citizen of Madhya Pradesh is denied information regarding a town planning scheme by the municipal PIO and the First Appellate Authority, they may file a Second Appeal to the Madhya Pradesh State Information Commission, which is headquartered in:
(A) Indore
(B) Gwalior

2. Filing of Second Appeal to the Information Commission (if still unsatisfied)
3. Filing of First Appeal to the First Appellate Authority
4. Expiry of the initial 30-day response period without a satisfactory reply

(A) 1, 4, 3, 2
(B) 1, 3, 4, 2
(C) 4, 1, 3, 2
(D) 1, 4, 2, 3

108. The mandatory publication of the "Annual Administration Report" by an Urban Local Body is primarily intended to:
(A) Advertise the specific political party currently in power within the municipal council.
(B) Provide a public disclosure of the municipality's performance, achievements, and financial health.
(C) Fulfill a mandatory requirement to secure large international bank loans for city projects.
(D) Detail the personal travel itineraries and official tour diaries of all municipal councilors.

109. The concept of "Placemaking" in urban planning heavily relies on community engagement primarily because:
(A) It capitalizes on community assets to create public spaces that promote health and well-being.
(B) It shifts the total financial cost of construction and design entirely onto the local citizens.
(C) It removes the need for standard engineering safety checks during the design phase of parks.
(D) It allows politicians to avoid taking responsibility for potentially failed local infrastructure projects.

110. Read the following statements regarding the role of NGOs in participatory planning:
Statement I: NGOs often act as facilitators, bridging the communication gap between technical municipal planners and marginalized communities.
Statement II: Municipalities are legally barred from consulting NGOs during the preparation of City Development Plans.
Which of the following is correct?
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

111. Match the concepts/tools in List I with their primary descriptive elements in List II:
List I: Concepts/Tools
P. Arnstein's Ladder
Q. Social Audit
R. Participatory Budgeting
S. E-governance
List II: Descriptive Elements
1. Allowing citizens to directly decide the allocation of a portion of public funds
2. Evaluating the gap between a project's intended social benefits and actual outcomes by the community
3. Delivering public services transparently and efficiently using ICT
4. Categorizing citizen involvement from manipulation to citizen control

(A) P-4, Q-2, R-1, S-3
(B) P-4, Q-1, R-2, S-3
(C) P-2, Q-4, R-3, S-1
(D) P-1, Q-2, R-4, S-3

112. Which of the following statements regarding the 'Slum Networking' approach to urban upgrading is INCORRECT?
(A) It views slums not as isolated islands but as integral parts of the city's natural and infrastructure networks.
(B) It leverages the natural topography of slum settlements for gravity-based drainage and sewerage.
(C) It relies entirely on top-down, contractor-driven execution with zero community financial contribution.
(D) It heavily depends on community mobilization and formation of neighborhood groups for implementation and maintenance.

113. A town planner in Madhya Pradesh has access to the National Urban Real Time Governance System (NURTGIS). What is the most competent way to integrate this into daily town planning decisions?

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ANSWERS

1. (B) Citizen Control
Sherry Arnstein's Ladder of Citizen Participation is a foundational framework for understanding degrees of public engagement. Within this hierarchical model, the top rung represents the peak of power redistribution. In this stage, residents obtain the governing authority to manage programs or institutions. They can negotiate conditions under which outsiders may change or influence their community-led initiatives effectively.

2. (C) Statement I is true but Statement II is false
The International Association for Public Participation spectrum defines various engagement levels. At the consult stage, authorities commit to keeping the public informed, listening to concerns, and providing feedback on how input influenced outcomes. Conversely, the empower level grants final decision-making power to the public, rather than administrative officials, ensuring that community choices are implemented by the governing body.

3. (A) P-3, Q-4, R-1, S-2
Effective public participation relies on clearly defined objectives across the engagement spectrum. Informing focuses on providing balanced information. Involving ensures that public concerns are consistently understood. Collaboration involves partnering with the public to develop alternatives. Finally, empowering places the ultimate decision-making authority in the hands of the citizens. These goals help planners select the most appropriate strategy for civic projects.

4. (C) A statutory time limit is provided during which the public can file written objections or suggestions regarding the draft plan.
Statutory planning frameworks include specific mechanisms for transparency and public engagement during the development of master plans. Legislation requires authorities to publish a draft version of the plan for community review. During this period, a mandatory time limit is provided, allowing individual citizens and organizations to submit written objections or suggestions. This ensures that the finalized plan reflects local concerns.

5. (A) Ensuring a minimum of 30 days' notice is given to the public through local and national daily newspapers
Under the Environmental Impact Assessment notification, specific procedural requirements must be met to ensure the legal validity of a public hearing. A minimum notice period of thirty days is mandatory before the event occurs. This notice must be published in local and national newspapers to ensure maximum visibility. Such transparency allows affected residents to review project reports and prepare feedback.

6. (B) Both A and R are true but R is not the correct explanation of A.
Incorporating public participation into urban planning initially extends the timeline because of the intensive consultation and review processes required. However, these efforts often lead to smoother project implementation. By addressing community concerns early, planners reduce the risk of future legal challenges or local resistance. While both observations are accurate, the reduction in litigation does not explain the initial time increase.

7. (B) 30 days
The Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, establishes the legal framework for town and country planning within the state. It specifies the procedural steps for master plan approval, including public consultation. Once the draft plan is published, the act mandates a statutory minimum period of thirty days for residents to file their objections and suggestions formally through the prescribed channels.

8. (C) Therapy
Arnstein's Ladder categorizes citizen participation into three main levels. The bottom rungs, including therapy and manipulation, are classified as non-participation. The middle rungs, such as informing, consultation, and

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(C) Bhopal
(D) Jabalpur

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the suggestion that tenure security is irrelevant is factually incorrect. In reality, legal recognition of residency is a primary factor that influences whether dwellers invest their time and resources.

17. (B) Organizing a multi-stakeholder charrette to co-design a shared space accommodating recreational and transit needs.
Planning public spaces often involves resolving conflicting demands from diverse stakeholder groups. A multi-stakeholder charrette is an effective collaborative approach in such situations. This intensive workshop brings together residents from both upscale societies and informal settlements to co-design shared spaces. By facilitating dialogue, planners can create inclusive designs that accommodate various needs, such as recreation and essential transit access.

18. (C) A is true but R is false.
Social audits serve as a vital mechanism for ensuring transparency and accountability in urban governance projects. Unlike traditional financial audits, they involve the beneficiary community directly in verifying project outcomes and expenditures. This participatory approach ensures that public funds are used effectively and that projects meet their stated goals. Therefore, the claim that social audits rely exclusively on external accountants is incorrect.

19. (A) Gram Sabha
The Provisions of the Panchayats (Extension to Scheduled Areas) Act, known as PESA, significantly empowers grassroots institutions in tribal regions. In Madhya Pradesh, the implementation of PESA rules grants the Gram Sabha extensive authority. This body is responsible for managing local natural resources, planning for community development, and resolving disputes. Such decentralization ensures that traditional tribal governance systems are respected.

20. (C) Automated satellite image classification performed via artificial intelligence algorithms.
Participatory Geographic Information Systems focus on integrating local knowledge with spatial technology. Common methods include manual sketch mapping by residents, community-led data collection using handheld GPS units, and the creation of interactive 3D physical models. These approaches emphasize human involvement. In contrast, automated satellite image classification using artificial intelligence is a top-down technical process devoid of community input or knowledge.

21. (B) 1 and 3
City Development Committees and Citizens' Committees are advisory bodies that bridge the gap between residents and urban planners. They integrate diverse stakeholder views into the planning process and help prioritize infrastructure projects based on actual community needs. While these committees provide valuable insights, they do not possess statutory powers to veto state budgets or replace the executive functions of municipal councils.

22. (D) Utilizing digital platforms, social media, and integrating planning workshops within university curricula.
Engaging youth and students in urban planning requires modern and accessible communication strategies. Traditional methods like technical gazette notifications or weekday meetings often exclude younger demographics. Utilizing digital platforms, social media campaigns, and interactive workshops within university curricula is far more effective. These approaches meet students in their own environments, encouraging them to contribute innovative ideas for the city's future.

23. (B) Seasonal Calendar – Identifying periods of high waterlogging or disease outbreaks in a settlement
Participatory Rural Appraisal tools have significant utility in urban contexts for understanding local dynamics. A seasonal calendar is particularly useful for identifying recurring issues such as waterlogging or disease outbreaks during specific months. While transect walks and Venn diagrams are also PRA tools, they are used for spatial observation and relationship mapping, rather than demographic data analysis or administrative hierarchy outlining.

24. (B) Article 243S
The 74th Constitutional Amendment Act, 1992, introduced several provisions to strengthen urban local governance in India. Article 243S specifically

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mandates the constitution and composition of Ward Committees in municipalities that have a population of three lakhs or more. This constitutional requirement ensures that larger urban centers have a decentralized structure to facilitate better administration and greater public participation at the local level.

25. (D) Keep Satisfied
Stakeholder management strategies are determined by the Power-Interest matrix. Individuals or groups with high power but low interest in a project must be kept satisfied to prevent them from becoming obstacles. Planners should meet their needs and ensure they are adequately consulted on major decisions. This approach maintains their support without overwhelming them with detailed information that they may find irrelevant.

26. (D) Statement I is false but Statement II is true
Consultation methods vary based on the desired level of collaboration and technicality. The Delphi method involves an anonymous, iterative process with experts rather than a face-to-face debate. In contrast, a Charrette is an intensive, multi-day workshop where diverse stakeholders work together to solve specific spatial problems. This collaborative design process aims to produce feasible solutions through direct interaction and feedback.

27. (A) P-3, Q-4, R-2, S-1
Urban planners use various methods to gather community input effectively. Focus Group Discussions involve guided conversations with small groups. Intercept surveys capture brief feedback by stopping pedestrians in public spaces. Visual Preference Surveys ask participants to rate images of different streetscapes to gauge aesthetic desires. Town Hall meetings are large public gatherings that provide an open forum for broader feedback.

28. (B) In-depth interviews conducted with individuals who have specialized knowledge or deep community understanding.
Key Informant Interviews are a qualitative research method used to gather specialized insights into community issues. These in-depth sessions are conducted with individuals who possess deep knowledge or unique perspectives, such as community leaders or local experts. Unlike quantitative surveys, these interviews allow for open-ended exploration of complex topics, providing planners with a nuanced understanding of the social and physical landscape.

29. (A) Conducting guided transect walks and Focus Group Discussions within the local neighborhood.
When conducting needs assessments in neighborhoods with low digital literacy, traditional in-person methods are most effective. Guided transect walks allow planners to observe physical conditions alongside residents, while Focus Group Discussions facilitate deep conversation about local challenges. These participatory approaches ensure that the voices of economically weaker sections are heard, avoiding the barriers created by online portals or technical panels.

30. (A) Both A and R are true and R is the correct explanation of A.
Focus Group Discussions are typically structured to include between six and twelve participants. This specific size is maintained to ensure that the group dynamic remains manageable and productive. Keeping the group small allows every individual to share their perspectives comfortably without being overshadowed. This facilitated approach helps researchers gather high-quality qualitative data through detailed interactions and diverse viewpoints.

31. (D) MyGov
The MyGov platform serves as a primary national tool for citizen engagement and crowdsourcing ideas for government initiatives. In Madhya Pradesh, Smart City Special Purpose Vehicles in cities like Bhopal and Indore have extensively customized this portal for stakeholder consultation. It allows residents to submit suggestions, participate in polls, and contribute to the development of various urban planning projects through digital means.

32. (C) Conducting sessions asynchronously over several months without face-to-face interaction.
A design Charrette is characterized by its intensive and collaborative nature. It typically spans several consecutive days and involves

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multiple iterative feedback loops between various project stakeholders. The goal is to produce a finalized and feasible design solution. Therefore, conducting sessions asynchronously over several months without face-to-face interaction contradicts the fundamental principle of immediate, collaborative problem-solving that defines the Charrette.

33. (B) 1, 2, and 4
Effective stakeholder mapping begins with identifying all individuals or groups impacted by a project. These stakeholders are then categorized using tools like the Power-Interest Matrix to understand their influence and level of concern. Based on this analysis, specific engagement strategies are developed for each quadrant. Intentionally excluding stakeholders who express negative views is incorrect, as inclusive planning requires addressing all perspectives.

34. (D) Allowing for anonymous, iterative input to minimize the dominance of vocal or authoritative individuals.
The Delphi method is a structured communication technique used for gathering expert opinions on complex, long-term policies. Its primary advantage is that it utilizes anonymous, iterative rounds of questioning. This process prevents vocal or authoritative individuals from dominating the discussion, ensuring that all expert viewpoints are considered equally. It facilitates a movement toward consensus by allowing participants to refine their views privately.

35. (A) 4, 2, 1, 3
Conducting a formal Focus Group Discussion involves several critical stages. The process starts by defining research objectives and identifying the target participant profiles. Next, a detailed discussion guide and specific questions are developed. A trained facilitator then conducts the session with the selected group. Finally, the resulting transcripts are analyzed and findings are synthesized to inform the urban planning process effectively.

36. (C) A forum bringing together government, private sector, and civil society to address shared urban challenges.
A multi-stakeholder platform in urban governance is a collaborative forum designed to address complex city challenges. It brings together representatives from the government, the private sector, and civil society organizations. By facilitating dialogue among these diverse groups, the platform helps build consensus on development priorities and ensures that urban policies reflect a wide range of interests and expertise within the community.

37. (A) A software solution that checks CAD drawings for compliance with local building bye-laws.
AutoDCR is a significant e-governance software solution used in urban planning and administration. It automates the process of checking architectural CAD drawings against local building bye-laws and development control regulations. By performing these compliance checks digitally, the system reduces the time required for plan scrutiny and minimizes the potential for human error or subjective discretion in the building permit process.

38. (C) Statement I is true but Statement II is false
The National e-Governance Plan was launched to make all government services accessible to citizens within their localities through common delivery outlets. It focuses on enhancing efficiency and transparency across various levels of administration. Contrary to being excluded, urban governance and municipalities are integral parts of the framework, with specific mission mode projects designed to modernize municipal services and administration.

39. (A) P-3, Q-4, R-1, S-2
Various e-governance tools serve specific functions in urban management. Online Building Plan Approval Systems streamline the scrutiny of construction permits. GIS-based property tax systems enhance municipal revenue by mapping unassessed properties spatially. CPGRAMS is a centralized platform for public grievance redressal and monitoring. Open Data Portals provide unrestricted access to non-sensitive government datasets, fostering transparency and allowing for independent civic innovation.

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89. (D) Migrating legacy data accurately while maintaining a hybrid system during the transition.
Transitioning from paper-based to online systems for vital records like birth and death registration requires careful management. The most crucial competency for a smooth change is ensuring that legacy data is accurately migrated to the new digital platform. Additionally, maintaining a hybrid system during the transition period helps accommodate citizens who may not yet be comfortable with digital services.

90. (A) Both A and R are true and R is the correct explanation of A.
The adoption of the National Municipal Accounting Manual and double-entry accounting significantly enhances financial transparency in local bodies. Double-entry accounting is superior because it provides a clear and comprehensive picture of municipal assets, liabilities, and actual fiscal health. Unlike single-entry systems that only track cash flow, this method allows for a more professional and accurate assessment of financial position.

91. (B) They can apply, upload documents, and pay the fee online through the citizen portal.
Under the e-Nagarpalika framework in Madhya Pradesh, the process for obtaining a trade license has been modernized and simplified. Entrepreneurs no longer need to visit government offices physically. Instead, they can complete the entire application process online through the citizen portal. This includes uploading necessary documents and paying the required fees digitally, making it much easier to manage commercial operations.

92. (B) Automatic remote-controlled demolition of unauthorized structures
Online Building Plan Approval Systems offer several features to streamline the construction permit process. These include the automated calculation of fees, integration of digital signatures for professionals, and automated status alerts for applicants. However, the system does not include the capability for the automatic, remote-controlled demolition of unauthorized structures. Demolition remains a physical administrative and legal process requiring manual intervention.

93. (A) 1, 2, and 4
The e-governance framework of the Smart Cities Mission includes several technologically advanced components. Integrated Command and Control Centers serve as the city's brain for monitoring services. Smart solid waste management utilizes RFID and GPS tracking for efficiency. Additionally, city-specific citizen engagement apps facilitate better communication. The dissolution of elected municipal councils in favor of corporate boards is not standard.

94. (C) It enables researchers and the public to analyze data and develop solutions to urban problems.
The primary advantage of implementing Open Data Portals in urban planning is the empowerment of the public and researchers. By providing access to various datasets, these portals enable independent analysis of urban problems and the development of innovative solutions. This transparency fosters a collaborative environment where data-driven insights from the community can contribute to more effective city planning strategies.

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95. (D) NMIS (Municipal MIS) – Daily wage laborers seeking employment
Different e-governance services are tailored to specific target audiences. AutoDCR is designed for architects and planners. The CM Helpline 181 is for general citizens with grievances. The MP RERA portal serves homebuyers and real estate promoters. However, the Municipal Management Information System is an internal administrative tool for municipal officials and staff. It is not intended for use by laborers.

96. (C) Non-emergency municipal service requests and reporting civic issues like potholes or garbage.
The 311 mobile application model is a widely used tool for enhancing municipal service delivery. It primarily functions as a platform for citizens to report non-emergency civic issues such as potholes, broken streetlights, or uncollected garbage. By allowing residents to easily submit requests and track their resolution, the app improves communication between the public and city departments.

not used for the formal registration of births and deaths.

48. (C) e-Panchayat / e-Municipality
The National e-Governance Plan identified specific Mission Mode Projects to transform various sectors of public administration. For local government, the e-Panchayat and e-Municipality projects were designated to modernize administration at the grassroots and urban levels. These initiatives aim to improve the delivery of local services and enhance the internal efficiency of municipal and rural bodies through the use of technology.

49. (B) 48 hours
The Right to Information Act, 2005, establishes specific timelines for Public Information Officers to provide requested data. While the standard response period is thirty days, a critical exception exists for urgent matters. If the information sought concerns the life or liberty of a person, the officer is legally mandated to provide the information within forty-eight hours to ensure the timely protection of rights.

50. (C) Statement I is true but Statement II is false
Social audits are a participatory mechanism where the beneficiary community directly verifies the execution and expenditure of local projects. This process enhances transparency at the grassroots level. In contrast, a statutory financial audit is a formal legal requirement. It must be conducted by qualified professionals, such as auditors from the government or chartered accountants, to ensure compliance with official accounting standards.

51. (A) P-3, Q-1, R-2, S-4
Different audit types provide various layers of accountability in governance. Internal audits are routine checks conducted by an organization's own staff. The CAG audit is performed by the supreme constitutional authority to ensure financial propriety. Social audits involve community-led verification of project outcomes. Performance audits evaluate whether an organization has achieved its intended goals effectively and efficiently, focusing on broader results.

52. (C) Participatory surveys used to gather organized feedback regarding the quality of public services.
Citizen Report Cards are a participatory tool used to improve public service delivery. They involve organized surveys that gather feedback from residents regarding the quality, efficiency, and adequacy of municipal services. By providing a structured way for citizens to grade the performance of various departments, these report cards foster accountability and help authorities identify specific areas where service improvements are needed.

53. (A) The grievance automatically escalates to the next higher level of authority (L2).
The CM Helpline 181 in Madhya Pradesh is a sophisticated grievance redressal system. It utilizes a structured escalation matrix to ensure that citizen complaints are addressed promptly. If a local officer fails to resolve an issue within the allotted time, the grievance automatically escalates to the next higher level of authority. This mechanism prevents local apathy and ensures administrative accountability throughout the hierarchy.

54. (A) Both A and R are true and R is the correct explanation of A.
Strong whistleblower protection frameworks are essential for enhancing transparency within urban governance. These protections are vital because they encourage municipal employees and private citizens to report corrupt practices or mismanagement. By removing the fear of administrative retaliation or physical harm, such frameworks ensure that illegal activities are brought to light. This culture of accountability is crucial for maintaining the integrity of public institutions.

55. (C) 4
The CM Helpline 181 grievance redressal mechanism in Madhya Pradesh is designed with a robust hierarchy to manage complaints. It typically utilizes four distinct levels of escalation to ensure resolution. A grievance starts with a local-level officer and can progress through district and divisional levels up to the state department head if it remains unresolved, ensuring thorough and high-level administrative oversight.

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105. (B) 1, 2, and 4
Implementing service scorecards involves several steps to enhance municipal accountability. First, key performance indicators must be identified for essential services like water and sanitation. Then, data is collected to measure actual delivery against these benchmarks. Finally, publishing these results is essential because it informs the public and encourages healthy competition among different wards. Confidentiality would defeat the purpose of the scorecard.

106. (A) Mandating that all reasons for rejection be documented in writing and shared through an online system.
To prevent the arbitrary rejection of building plans, administrative systems must ensure high levels of transparency. The most effective deterrent is to mandate that all reasons for rejection be documented in writing and shared through an online system. This requirement forces officials to provide objective, rule-based justifications for their decisions, which can then be reviewed or appealed by the applicant.

107. (A) 1, 4, 3, 2
The process for obtaining information under the RTI Act follows a specific legal timeline. It begins with the submission of an application to the Public Information Officer. If a satisfactory reply is not received within thirty days, the applicant may file a first appeal to the designated authority. If still unsatisfied, the final step involves filing a second appeal with the Commission.

108. (B) Provide a public disclosure of the municipality's performance, achievements, and financial health.
Urban Local Bodies are required to publish an Annual Administration Report as a measure of public accountability. The primary purpose of this document is to provide a comprehensive disclosure of the municipality's performance, physical achievements, and financial health over the past year. By making this information available to residents, the local body ensures that its activities and use of funds are transparent.

109. (A) It capitalizes on community assets to create public spaces that promote health and well-being.
Placemaking is an urban planning approach that focuses on creating high-quality public spaces by leveraging community assets. Community engagement is fundamental to this process because it ensures that spaces are designed to promote the health and well-being of the people who use them. By incorporating local knowledge and desires, planners can transform locations into vibrant places that reflect unique identities.

110. (C) Statement I is true but Statement II is false
Non-Governmental Organizations often play a crucial role in participatory planning by acting as facilitators. They help bridge the communication gap between technical planners and marginalized groups who might otherwise be excluded. Contrary to being barred, municipalities are encouraged to consult with NGOs. These organizations provide valuable local insights and specialized expertise that can improve the quality of City Development Plans.

111. (A) P-4, Q-2, R-1, S-3
Several concepts and tools are used to enhance urban governance and participation. Arnstein's Ladder categorizes different levels of citizen involvement. Social audits involve the community evaluating the social outcomes of projects. Participatory budgeting allows residents to directly decide how a portion of public funds should be allocated. E-governance utilizes technology to deliver public services in a more transparent manner.

112. (C) It relies entirely on top-down, contractor-driven execution with zero community financial contribution.
The slum networking approach treats informal settlements as an integral part of the city's overall infrastructure and natural systems. It uses local topography for efficient drainage and sewerage. This method relies heavily on community mobilization and neighborhood groups for successful implementation and ongoing maintenance. Therefore, the claim that it involves zero community financial contribution is incorrect, as local investment is key.

113. (B) Using real-time traffic and utilities data to dynamically adjust zoning and infrastructure planning.
The National Urban Real Time Governance System provides planners with access to dynamic city data. The most competent way to utilize this

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that holding meetings strictly during daytime working hours increases participation for daily wage laborers is incorrect. Such timing actually creates a barrier, as laborers cannot afford to miss work.

65. (B) Ensuring facilitation that draws out opinions from marginalized groups and women.
To prevent elite capture during community meetings, planners must use inclusive facilitation techniques. This involves actively encouraging and prioritizing the participation of marginalized groups, including the poor and women. By ensuring that these voices are heard and considered equally alongside those of more dominant residents, the planner can achieve a more equitable outcome that reflects the needs of the neighborhood.

66. (A) Both A and R are true and R is the correct explanation of A.
Environmental Public Hearings under the EIA Notification are frequently criticized for being merely procedural exercises. This criticism arises because the final decisions regarding environmental clearance often fail to incorporate significant changes based on the community feedback gathered. When the concerns of local residents do not lead to tangible project adjustments, the participatory process is seen as a formality.

67. (A) Providing public access to data on registered real estate projects, promoters, and agents.
The Madhya Pradesh Real Estate Regulatory Authority portal enhances public participation by providing transparent access to critical information. Citizens can easily view data regarding registered projects, promoters, and real estate agents. This transparency empowers buyers to verify the legal status and progress of housing projects before investing. By making such information publicly available, the portal fosters trust and accountability in the sector.

68. (C) Topographical land surveys using Total Stations
Community Needs Assessments focus on understanding the social and infrastructure priorities of residents through qualitative engagement. Tools like SWOT analysis workshops, Focus Group Discussions with vulnerable groups, and asset mapping are commonly used. In contrast, topographical land surveys using Total Stations are technical engineering tasks. These surveys measure physical land features and elevations rather than gathering input on community needs.

69. (A) 1, 2, and 4
Community mapping is a participatory tool that relies on residents drawing spatial representations of their own neighborhoods. It visually highlights local assets, hazards, and infrastructure gaps from the community's perspective. This process helps validate official municipal records against actual ground realities. Crucially, it does not require high-end programming skills, making it accessible to ordinary citizens who possess deep localized knowledge.

70. (D) Technical planning jargon and complex land-use maps make the process inaccessible to laypersons.
Low public participation in the preparation of Master Plans is often caused by the technical complexity of the process. Urban planning documents frequently use specialized jargon and complex land-use maps that are difficult for laypersons to interpret. When the information is presented in an inaccessible format, citizens feel disconnected and unable to contribute meaningful feedback, leading to widespread apathy.

71. (B) Delegated Power – Citizen Power
Arnstein's Ladder of Participation groups rungs into three broad categories of engagement. Manipulation and therapy are considered non-participation. Informing, consultation, and placation are degrees of tokenism. Partnership, delegated power, and citizen control are the highest rungs, representing actual citizen power. Therefore, the pairing of delegated power with citizen power is accurate, as it involves a significant redistribution of authority.

72. (C) To institutionalize citizen participation through the creation of Area Sabhas and Ward Committees.
Under the JNNURM reform agenda, the mandatory Community Participation Law was introduced to strengthen local democracy. Its primary aim was to institutionalize citizen

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engagement within urban governance. This was achieved through the legal requirement to create Area Sabhas and Ward Committees. These bodies provide a structured framework for residents to participate in planning and decision-making processes at the neighborhood level.

73. (D) Participants rate images of built environments to gauge aesthetic and functional preferences.
A Visual Preference Survey is a participatory method used to understand community desires for the built environment. In this survey, participants are shown a series of images representing different streetscapes, building types, or public spaces. They rate these images based on their aesthetic and functional preferences. The results provide planners with clear, visual data on what types of urban designs the community.

74. (C) Statement I is true but Statement II is false
Structured surveys are designed with a rigid sequence of closed-ended questions, which allows for the collection of easily quantifiable and comparable data. Conversely, semi-structured surveys combine both fixed questions and open-ended discussion. They allow the researcher to explore topics in more depth based on participant responses. Therefore, the claim that semi-structured surveys rely exclusively on multiple-choice questions is incorrect.

75. (A) P-3, Q-1, R-4, S-2
Stakeholder engagement strategies depend on a group's influence and concern regarding a project. Those with high power and high interest must be managed closely through frequent consultation. High power, low interest stakeholders should be kept satisfied. Low power, high interest groups must be kept informed. Finally, those with low power and low interest require minimal effort and are simply monitored.

76. (B) Approaching individuals in public spaces for brief, on-the-spot feedback on urban issues.
Intercept surveys are a convenient method for gathering feedback from a wide range of people in public settings. Planners or researchers approach individuals in places like parks, transit hubs, or shopping areas to ask a brief series of on-the-spot questions. This technique is effective for capturing the views of diverse urban users who might not attend formal public meetings or workshops.

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77. (A) An Open House exhibition
An Open House exhibition is an ideal consultation method when planners need to present complex design alternatives. This format allows citizens to browse different proposals at their own pace in an informal setting. It provides an opportunity for residents to have one-on-one conversations with the planning team, ask questions, and provide feedback without the pressure of a formal, structured hearing.

78. (B) Both A and R are true but R is not the correct explanation of A.
Online consultation platforms are highly cost-effective tools for gathering feedback on urban planning documents from a large audience. However, relying solely on digital methods can lead to the exclusion of marginalized populations who lack internet access. While both of these statements are true and represent important considerations for planners, the existence of the digital divide does not explain the cost.

79. (D) Temple trusts, local priests, and floating pilgrim populations in the project area.
Large-scale urban projects involving religious sites, such as the Mahakal Lok in Ujjain, require specialized stakeholder consultation. Alongside local residents, planners must engage with temple trusts, local priests, and the floating population of pilgrims. These groups have a direct interest in how the space is managed and developed, ensuring that the final plans accommodate spiritual activities and pilgrim needs.

80. (C) Daily wage laborers who commute via public transport
In the context of a Bus Rapid Transit System, different stakeholders possess varying levels of influence. The State Transport Department, international funding agencies, and the Municipal Commissioner typically hold high power due to their control over resources and decision-making. In contrast, daily wage laborers, who are the primary users of the system, often have high interest but possess the least power.

81. (B) 1, 3, and 4
Effective Key Informant Interviews involve selecting participants based on their specialized community knowledge. These interviews should flow conversationally, allowing the researcher to uncover unexpected insights beyond the initial questions. Furthermore, information gathered should be triangulated with secondary data to ensure accuracy. Using a rigid, unchangeable questionnaire is not a best practice, as it limits the depth of qualitative data that can be collected.

82. (D) To create a collaborative environment where different sectors can build consensus on urban issues.
Multi-Stakeholder Forums are collaborative platforms used in urban governance to address complex city issues. Their primary purpose is to create an environment where diverse sectors, including government agencies, private businesses, and civil society, can come together. These forums facilitate dialogue and consensus-building, ensuring that urban development strategies are well-rounded and supported by a wide range of interests.

83. (A) 3, 4, 1, 2
The implementation of e-governance in public administration typically evolves through four distinct phases. It begins with the computerization phase, where internal records are digitized. This is followed by the information phase, where basic data is published on websites. The transactional phase then enables two-way interaction and online service delivery. Finally, the connected phase achieves seamless data sharing and integration.

84. (C) To provide an open forum for planners to present proposals and allow the public to ask questions.
Town Hall meetings serve as a critical open forum during the master plan preparation process. The core purpose is for planners to present their proposals directly to the community and for residents to ask questions or express concerns. These public gatherings facilitate transparent communication between the government and its citizens, ensuring that the planning process is visible and feedback is heard.

85. (A) Centralized Public Grievance Redress and Monitoring System
CPGRAMS is a vital e-governance initiative in India that stands for the Centralized Public Grievance Redress and Monitoring System. It provides a single portal for citizens to register their complaints against any central government department or authority. The system allows for the tracking of grievances and ensures that they are handled by the relevant officials, thereby improving administrative accountability.

86. (C) Statement I is true but Statement II is false
Open Data Portals are designed to foster transparency and civic innovation by providing public access to non-sensitive government datasets. These datasets are typically machine-readable, allowing researchers and developers to analyze urban trends. However, these portals do not publish private financial data or personal contact information of citizens. Such disclosures would be a violation of privacy laws and open data policies.

87. (A) P-2, Q-4, R-3, S-1
Madhya Pradesh utilizes several specialized portals for governance. MP Online is a unified platform for citizen services and utility payments. The e-Nagarpalika system provides a comprehensive ERP suite for municipal administration. The MP RERA portal manages real estate project registration and dispute resolution for homebuyers. Finally, the CM Helpline 181 serves as an integrated mechanism for grievance redressal.

88. (C) They eliminate the legal requirement for citizens to pay property tax.
GIS-based property tax management systems use spatial data to link tax records with building footprints. This technology helps municipalities identify unassessed properties and improve revenue collection efficiency. Base maps are typically created using high-resolution satellite imagery or drone surveys. However, these systems are administrative tools for management; they do not eliminate the legal requirement for citizens to pay their assessed taxes.

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40. (C) It is designed exclusively for the use of state government employees and restricts public access.
MP Online serves as the primary unified portal for the delivery of diverse citizen services throughout Madhya Pradesh. It enables residents to apply for utility connections, pay municipal taxes, and access various other government services from a single window. The suggestion that it is designed exclusively for government employees is incorrect, as its main purpose is to facilitate public access to e-governance.

41. (D) Undertaking GIS-based property tax mapping to identify unassessed and under-assessed properties.
To increase property tax revenue without raising rates, a municipality must improve its assessment and collection efficiency. Implementing a GIS-based property tax mapping system is the most effective intervention. By linking tax records with spatial data, authorities can identify unassessed or under-assessed buildings accurately. This ensures that all properties are brought into the tax net, thereby increasing municipal income through compliance.

42. (A) Both A and R are true and R is the correct explanation of A.
The implementation of an Online Building Plan Approval System significantly reduces subjective human discretion during the plan scrutiny process. This reduction is achieved because the system employs automated rule engines to evaluate architectural drawings against standardized municipal building bye-laws. By replacing manual checks with objective digital verification, the process becomes more transparent, faster, and less susceptible to inconsistent interpretations by officials.

43. (B) An integrated ERP solution designed to computerize the operations of all Urban Local Bodies.
In Madhya Pradesh, the e-Nagarpalika system is a comprehensive Enterprise Resource Planning solution. It is designed to computerize and integrate the various operations of all Urban Local Bodies within the state. This system facilitates diverse functions, including the payment of utility bills, application for trade licenses, and tracking of municipal services, thereby enhancing the overall efficiency and transparency of local administration.

44. (B) To centralize all urban local body elections under the Election Commission of India
The National Urban Real Time Governance System is designed to support data-driven decision-making in city management. Its objectives include providing real-time monitoring of infrastructure projects and creating integrated dashboards for key performance indicators. However, centralizing all urban local body elections under the Election Commission of India is not a goal of this system, as it focuses on operational governance and planning.

45. (A) 1, 2, and 4
The Management Information System utilized under the AMRUT mission is a critical tool for project oversight. It tracks both physical and financial progress while monitoring the achievement of urban reform milestones by municipalities. States must continuously update project data on this centralized portal to ensure transparency. While it improves financial monitoring, it does not eliminate the legal requirement for regular statutory audits.

46. (C) The digital divide, which marginalizes low-income and digitally illiterate populations.
The most significant challenge to the effective implementation of participatory e-governance in Indian cities is the digital divide. This gap often marginalizes low-income and digitally illiterate populations who lack the necessary devices or skills to access online platforms. Consequently, while technology can enhance transparency, it may also inadvertently exclude the very citizens who most need to participate in urban planning processes.

47. (D) AutoDCR – Online birth and death registration
E-governance portals are designed for specific administrative functions to improve service delivery. CPGRAMS handles public grievances, e-Nagarpalika manages municipal administration in Madhya Pradesh, and the RERA portal ensures transparency in real estate. However, AutoDCR is specifically used for the automated scrutiny of building plans and architectural drawings. It is

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97. (B) An independent official appointed to investigate citizen complaints against maladministration.
In the context of municipal governance, an Ombudsman is an independent official appointed to protect citizen rights. The primary role of this position is to investigate complaints made by the public against maladministration, corruption, or unfair treatment by municipal authorities. By acting as a neutral mediator, the Ombudsman ensures that grievances are addressed fairly and that local government remains accountable.

98. (C) Statement I is true but Statement II is false
Central Finance Commissions often utilize performance-based grants to encourage better governance among Urban Local Bodies. These grants are frequently tied to specific achievements, such as maintaining audited accounts or enhancing local revenue collection. Far from discouraging modernization, these incentives provide a strong financial motivation for municipalities to upgrade their financial systems and improve their overall administrative efficiency.

99. (A) P-2, Q-4, R-1, S-3
Various mechanisms ensure accountability in local government. Section 4 of the RTI Act requires the proactive publication of administrative information. Vigilance committees monitor project execution to prevent corruption. Public Expenditure Tracking involves following the flow of funds to the final delivery point. Finally, annual reports provide formal documentation of a municipality's yearly achievements and financial status.

100. (C) ULBs must proactively publish information regarding their functions, budget, and subsidy programs.
Section 4 of the Right to Information Act, 2005, places a significant obligation on all public authorities, including Urban Local Bodies. It mandates that these organizations proactively publish essential information regarding their functions, organization, and budget. This includes details on subsidy programs and other public-facing services. This "suo motu" disclosure is intended to reduce the need for individual citizen requests.

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101. (A) Administering a standardized questionnaire to a representative sample of households in wards.
To conduct an effective Citizen Report Card survey for a solid waste management system, a planner must gather structured feedback from the users. This involves administering a standardized questionnaire to a representative sample of households across different wards. By capturing the experiences and satisfaction levels of a diverse group of residents, the planner can gain an accurate understanding of performance.

102. (A) Both A and R are true and R is the correct explanation of A.
The adoption of an Online Building Plan Approval System serves as a powerful anti-corruption measure in urban administration. This effectiveness stems from the fact that the system significantly minimizes the physical interface between applicants and government officials. Furthermore, by utilizing automated rule-checking, the system reduces the potential for subjective discretion, ensuring that approvals are based solely on objective technical compliance.

103. (B) MP Panchayati Raj evam Gram Swaraj Adhiniyam, 1993
In Madhya Pradesh, the legal framework for institutionalizing social audits at the grassroots level is found within the Panchayati Raj evam Gram Swaraj Adhiniyam, 1993. This Act empowers local communities, particularly through the Gram Sabha, to verify the execution of projects and the use of public funds. This participatory oversight is crucial for ensuring transparency and accountability in development work.

104. (C) Adjudicating criminal trials and sentencing offenders to prison
Local vigilance committees play a vital role in monitoring urban governance and preventing corruption. Their functions include checking the quality of materials used in public works and reporting instances of bribery to higher authorities. They also ensure that public benefits reach the intended recipients. However, these committees do not have the legal power to adjudicate criminal trials, as those are judicial functions.

56. (C) Disclosure of the personal bank account details of all municipal taxpayers
Public disclosure norms for Urban Local Bodies are designed to increase transparency and trust. These typically include publishing annual financial statements, audit reports, and service level benchmarks. Details regarding awarded municipal contracts are also made public. However, disclosing the personal bank account details of taxpayers is not a standard norm, as it would violate individual privacy and pose significant security risks.

57. (A) 1, 2, and 3
A Municipal Accountability Index uses specific indicators to measure how well a local body serves its residents. Key factors include the frequency of public budget disclosures and the effectiveness of grievance redressal systems. The level of community participation in ward committee meetings is also a critical metric. However, the personal asset declarations of private citizens are irrelevant to measuring institutional accountability levels.

58. (A) Tracing public funds from allocation to service delivery to identify financial leakages.
Public Expenditure Tracking Surveys are specialized tools used to monitor the flow of government resources. Their core purpose is to trace public funds from the initial allocation stage down to the actual point of service delivery. By identifying where financial leakages or delays occur, these surveys help urban planners and administrators improve financial management and ensure that resources reach beneficiaries.

59. (A) 2, 1, 3, 4
The processing of a grievance through the CM Helpline 181 follows a logical sequence. It begins when a citizen registers a complaint via the toll-free number. A Level 1 officer then provides a resolution or clarification. If the citizen remains unsatisfied, the grievance escalates to higher levels. Finally, the process concludes with a confirmation call from the system to verify satisfaction.

60. (B) The Comptroller and Auditor General (CAG) of India
In the Indian municipal governance framework, the Comptroller and Auditor General of India is the fundamental constitutional authority responsible for external audits. The CAG lays down the specific guidelines and standards for auditing Urban Local Bodies. This oversight ensures that municipal expenditures comply with legal requirements and that financial reports provide an accurate representation of the local body's fiscal health and propriety.

61. (A) Citizens are allowed to advise, but power holders retain the right to judge the advice.
Within Arnstein's Ladder, placation is categorized as a degree of tokenism. At this level, citizens are granted a seat on boards or committees and are allowed to offer advice. However, the ultimate power holders retain the absolute right to judge the validity of that advice and make final decisions. While it appears participatory, the actual influence of the citizens remains severely limited.

62. (C) Statement I is true but Statement II is false
The IAP2 Spectrum defines the level of public impact on decision-making. Collaboration involves a genuine partnership where the public helps shape every aspect of the process. In contrast, the consult level only requires authorities to listen to and acknowledge concerns. The suggestion that consultation involves delegating final power to the community is incorrect, as that degree of influence belongs to empowerment.

63. (A) P-3, Q-1, R-2, S-4
Different levels of participation manifest through various practical activities in urban planning. Informing is exemplified by publishing a simple newspaper notice about road closures. Consultation involves gathering feedback through public hearings on draft plans. The involving stage is seen in citizen advisory boards that help shape alternatives. Finally, empowering is represented by citizen juries making binding decisions on the allocation of grants.

64. (C) Holding public consultations strictly during daytime working hours increases the participation of daily wage laborers.
Effective public participation faces several structural and social hurdles. Elite capture can happen when powerful groups dominate forums. Additionally, low literacy and lack of awareness often reduce engagement. However, the claim

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tool is by integrating real-time information on traffic and utilities into daily decision-making processes. This allows for more responsive zoning and infrastructure planning that can adapt to current urban conditions. Relying on outdated data instead would lead to ineffective planning.

114. (A) Both A and R are true and R is the correct explanation of A.
Community Needs Assessments often identify development priorities that differ significantly from those produced by top-down, expert-driven planning models. This difference exists because professional planners frequently rely on macro-level statistical data and standardized urban norms. In contrast, local communities base their priorities on their own daily lived experiences and immediate needs. Understanding these localized perspectives is essential for creating effective plans.

115. (A) A committee constituted by the State Government specifically to hear objections
Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, a formal process exists for handling public feedback on draft plans. Once the draft development plan is published and objections are received, they are not sent to a court. Instead, the State Government constitutes a specific committee tasked with hearing these objections. This administrative body ensures that public concerns are considered.

116. (C) Active and skilled facilitation targeting the inclusion of marginalized voices
Elite capture in participatory forums is often driven by socio-economic inequality and the use of jargon-heavy technical documents that exclude ordinary people. Holding meetings in locations that are difficult for the poor to reach also contributes to this problem. However, active and skilled facilitation that specifically targets the inclusion of marginalized voices acts as a preventative measure against elite capture.

117. (A) 1, 2, and 4
Participatory budgeting is a powerful mechanism for enhancing social accountability in local government. It increases transparency regarding municipal spending and empowers citizens to influence the allocation of resources directly. This approach ensures that infrastructure investments are aligned with the actual needs of the neighborhood. While it improves financial management, it cannot guarantee a budget surplus every single financial year.

118. (D) Participation levels should vary based on the goals, resources, and impact of the decision.
The core philosophy of the International Association for Public Participation spectrum is that engagement should be purposeful and flexible. It suggests that the level of participation should be selected based on the specific goals of the project and the expected impact of the decision. This allows planners to choose the most appropriate strategy, ranging from simply informing to fully empowering.

119. (B) Minutes of the meeting – A publicly available document of all concerns raised
Environmental Public Hearings follow strict procedural rules to ensure transparency. After the hearing, the minutes of the meeting must be recorded and made publicly available. This document contains a full record of all the concerns and suggestions raised by the community. While other stages like the notice period are also regulated, the public availability of the minutes is key.

120. (C) Bhopal
The Madhya Pradesh State Information Commission is the highest appellate body in the state for matters related to the Right to Information Act. If a citizen is unsatisfied with the responses from a Public Information Officer or the First Appellate Authority, they may file a second appeal here. The commission is headquartered in Bhopal, which ensures central administrative access.

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(A) Ground Penetrating Radar (GPR) systems for subsurface mapping and analysis.
(B) Traditional manual chain and compass surveys used by village level workers.
(C) Handheld GPS units without any form of differential signal correction.
(D) Drone technology and Continuously Operating Reference Stations (CORS).

14. Match the specific land record terminology in List-I with its description in List-II.
List I: Land Record Terminology
P. Khasra
Q. Cadastral Map
R. RoR
S. Mutation
List II: Description
1. Record of Rights detailing ownership and tenancy
2. A plot-wise registry or index of agricultural/ land parcels
3. The process of changing title ownership in revenue records
4. A large-scale map showing precise boundaries of land parcels
(A) P-2, Q-4, R-1, S-3
(B) P-1, Q-2, R-4, S-3
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-1, R-3, S-4

15. In the context of real estate regulation, how does a Real Estate Regulatory Authority (RERA) primarily regulate the urban land market to prevent market busts driven by developer defaults?
(A) Establishing a fixed ceiling price for all residential transactions in cities.
(B) Requiring 70% of allottee funds be held in a separate bank account.
(C) Acquiring land for private developers at heavily subsidized state rates.
(D) Waiving all stamp duty for real estate projects larger than 10 hectares.

16. Consider the following statements about the impact of infrastructure on land prices:
1. Proximity to Mass Rapid Transit Systems (MRTS) generally leads to a proportional increase in residential land values.
2. The announcement effect of a new infrastructure project often triggers speculative land price hikes before construction begins.
3. Heavy industrial infrastructure development invariably increases adjacent premium residential land values due to agglomeration.
4. Access to piped water and sewerage systems is capitalized into the value of urban housing.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

17. Which of the following is NOT an intended outcome of land readjustment mechanisms as practiced in Town Planning Schemes?
(A) Transferring private land ownership to the state without any form of compensation.
(B) Sharing development costs and benefits equitably among various landowners.
(C) Providing land for public amenities without using compulsory acquisition.
(D) Returning a smaller, higher-value reconstituted plot to the original owner.

18. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Informal land markets thrive in the fringes of fast-growing cities in India.
Reason (R): Rigid formal planning regulations, high stamp duties, and a lack of affordable housing supply push lower-income groups to rely on informal tenure arrangements.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

19. Consider the following statements:
Statement I: Stamp duty is a transactional tax levied by state governments on the transfer of property, and high stamp duty rates can incentivize the under-reporting of property transaction values.
Statement II: Digitization of land records solely guarantees conclusive land titling in India

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benefiting from knowledge spillovers, thereby increasing their willingness to pay higher rents.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

7. Which of the following statements regarding the land value gradient from the Central Business District (CBD) is INCORRECT?
(A) Land values generally exhibit a negative exponential decline with increasing distance from the CBD.
(B) The emergence of sub-centers or edge cities creates secondary peaks in the land value gradient.
(C) Residential uses outbid commercial uses at greater distances from the CBD due to lower transport costs relative to land size requirements.
(D) Transportation network improvements tend to make the land value gradient steeper over time.

8. Arrange the following stages of real estate market cycles in their correct chronological sequence:
1. Recession or Bust (increasing vacancies, declining rents)
2. Recovery (declining vacancies, no new construction)
3. Expansion or Boom (rents rise rapidly, new construction begins)
4. Hyper-supply (new completions outpace demand, vacancy rises)

(A) 2, 3, 4, 1
(B) 1, 2, 4, 3
(C) 3, 4, 1, 2
(D) 2, 1, 3, 4

9. How does the imposition of premium FAR (Floor Area Ratio) act as a land value capture financing tool?
(A) It limits the total built area in a zone, thereby raising property prices.
(B) Developers pay fees for extra rights, funding public infrastructure.
(C) It moves development rights specifically to housing on the urban fringe.
(D) It turns leasehold into freehold based on a fixed percentage fee.

10. According to studies by the National Institute of Urban Affairs (NIUA) on Land Value Capture in India, which is considered the most critical bottleneck in implementing LVC instruments effectively?
(A) Complete absence of legislative provisions within State Planning Acts.
(B) Lack of reliable mechanisms for property valuation and assessment.
(C) Hesitation from the World Bank to fund projects backed by LVC tools.
(D) Excessive reliance on property tax instead of specialized development fees.

11. Which of the following is an appropriately matched pair regarding land tenure systems in India?
(A) Leasehold – Rights to use land under specific conditions for a predetermined period without full ownership.
(B) License – Ownership of land and buildings for a limited, predetermined duration.
(C) Freehold – A temporary right to occupy a land parcel held by a tenant.
(D) Tenancy – Absolute ownership of a land parcel held in perpetuity by a person.

12. Which of the following is an INCORRECTLY matched pair regarding urban economic concepts?
(A) Formal Land Market – Transactions recorded with valid title and stamp duty paid
(B) Land Hoarding – Accumulating land without immediate development intent to profit from future price rise
(C) Speculation – Purchasing land strictly for immediate agricultural use and crop yields
(D) Land Banking – Advance acquisition of land by public authorities for future planned development

13. SVAMITVA scheme, a Central Sector Scheme, fundamentally aims to provide a Record of Rights to village household owners. What technology is primarily used under this scheme for mapping land parcels in the rural-urban fringe?

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(D) Requesting an ad-hoc grant from the Central Government for the project.

54. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Pooled finance mechanisms are highly beneficial for smaller municipal councils (Nagar Parishads).
Reason (R): Small municipalities individually lack the credit rating and scale to access capital markets; pooling their projects diversifies risk and lowers the cost of borrowing.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

55. Consider the following statements:
Statement I: Capital value-based property tax systems are more elastic and responsive to market dynamics than Annual Rental Value (ARV) systems subject to rent control laws.
Statement II: The Unit Area Method (UAM) calculates property tax by multiplying the built-up area with an assigned value per unit area, varying by zone, use, and age.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

56. Arrange the typical sequence of actions involved in an Urban Local Body (ULB) successfully raising capital via Municipal Bonds:
1. Obtaining a credit rating from an agency like CRISIL or ICRA
2. Implementation of Double-Entry Accrual Accounting
3. Appointing a transaction advisor and merchant banker
4. Listing the bonds on a stock exchange

(A) 2, 1, 3, 4
(B) 1, 2, 4, 3
(C) 3, 1, 2, 4
(D) 2, 3, 1, 4

57. Which of the following statements about the "Cost of Capital" in urban project appraisal is correct?
(A) The nominal sum of all capital expenses incurred during construction.
(B) Using it as the discount rate for NPV to set minimum return rates.
(C) It refers exclusively to the interest paid on external sovereign loans.
(D) It is generally set at zero for public goods like roads and parks.

58. Which of the following economic phenomena does NOT directly contribute to an increase in urban land values?
(A) Positive externalities from nearby public parks
(B) Implementation of stringent rent control legislations
(C) Transit-oriented development upzoning
(D) Agglomeration economies in the CBD

59. A Master Plan proposes the creation of a 'Central Business District (CBD)' with a very high FAR to encourage high-density commercial development. According to Alonso's bid rent theory, which type of economic activity will most likely secure locations closest to the absolute center?
(A) Premium retail/offices deriving high profit from accessibility.
(B) Heavy manufacturing industries requiring large physical footprints.
(C) Low-income residential housing complexes located in the core.
(D) Wholesale agricultural markets for distribution of regional produce.

60. Which of the following is an INCORRECTLY matched pair regarding financial indicators?
(A) BCR > 1 – The project is economically viable as benefits exceed costs
(B) NPV > 0 – The project generates a positive return above the discount rate
(C) IRR < Discount Rate – The project should be immediately accepted for investment
(D) Discounting – The process of converting future cash flows to present values

61. What defines "Betterment Levy" in the context of town planning schemes?

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without requiring legislative changes to the Registration Act.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

20. A Town Planner is tasked with designing an affordable land supply strategy for a city. Which of the following approaches is most economically sustainable for the Development Authority?
(A) Acquiring prime land under state acts and selling below market value.
(B) Freezing urban periphery transactions to artificially lower land costs.
(C) Abolishing all property taxes for vacant plots within municipal limits.
(D) Mandating affordable plots in new layouts offset by premium FAR.

21. What is the primary purpose of calculating the Net Present Value (NPV) in the Cost-Benefit Analysis of an urban infrastructure project?
(A) Identifying the specific year the project begins to physically degrade.
(B) Checking if the present value of benefits exceeds the present costs.
(C) Summing all financial revenues over the lifecycle without discounting.
(D) Evaluating inflation rates for the construction materials being utilized.

22. Which of the following statements regarding the distinction between Economic Analysis and Financial Analysis in project evaluation is INCORRECT?
(A) Financial analysis evaluates the project purely from the perspective of the investor.
(B) Economic analysis considers societal impacts including externalities and non-market factors.
(C) Economic analysis treats taxes and subsidies as direct resource costs and benefits.
(D) Economic analysis uses shadow pricing to reflect the true opportunity cost of resources.

23. Which of the following is an appropriately matched pair regarding Cost-Benefit Analysis metrics?
(A) Net Present Value – The sum of all undiscounted annual cash inflows over twenty years.
(B) Shadow Price – The actual market price paid for materials inclusive of all local taxes.
(C) Intangible Benefit – A benefit that is easily quantified in monetary terms using market prices.
(D) Internal Rate of Return (IRR) – The discount rate that makes the project's NPV equal to zero.

24. Which of the following is an INCORRECTLY matched pair regarding valuation techniques for non-market environmental goods?
(A) Replacement Cost Method – Assessing project profitability by projecting future property tax revenue.
(B) Hedonic Pricing – Isolating the value of environmental amenities by analyzing real estate market prices.
(C) Contingent Valuation – Using surveys to ask individuals their willingness to pay for an environmental benefit.
(D) Travel Cost Method – Estimating the economic value of recreational sites based on the expenses incurred to visit them.

25. In the preparation of a Detailed Project Report (DPR) for a water supply project, what is the economic efficiency rationale behind conducting a Cost-Benefit Analysis (CBA)?
(A) Ensuring that the project maximizes political visibility for elections.
(B) Allocating scarce resources to maximize the net social welfare.
(C) Guaranteeing that private contractors receive a fixed rate of return.
(D) Demonstrating that no environmental damage occurs during construction.

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26. Match the types of project costs/benefits in List-I with their corresponding examples in List-II for an urban MRTS (Metro) project.
List I: Project Costs/Benefits
P. Direct Capital Cost
Q. Indirect Benefit
R. Operation & Maintenance Cost
S. Intangible Benefit
List II: Examples
1. Reduced greenhouse gas emissions and

improved civic pride
2. Rolling stock and station construction expenses
3. Electricity for running trains and staff salaries
4. Reduced congestion for non-users on parallel road networks

(A) P-2, Q-4, R-3, S-1
(B) P-1, Q-2, R-4, S-3
(C) P-2, Q-3, R-4, S-1
(D) P-4, Q-1, R-2, S-3

27. Why is a Social Cost-Benefit Analysis (SCBA) preferred over a pure financial analysis for preparing DPRs for sewerage networks?
(A) Because public health and environmental benefits must be quantified.
(B) Because networks recover all capital costs through monthly user fees.
(C) Because SCBA removes the need to calculate physical construction costs.
(D) Because funding agencies like the World Bank forbid financial analysis.

28. Consider the following statements regarding the Internal Rate of Return (IRR):
1. The IRR is the discount rate at which the Net Present Value (NPV) is exactly zero.
2. A project is considered economically viable if its IRR is less than the social discount rate.
3. The IRR method can yield multiple rates for projects with non-conventional cash flows (alternating positive and negative cash flows).
4. When comparing mutually exclusive projects, the one with the highest IRR will always have the highest NPV.

Which of the statements given above are correct?
(A) 1 and 2 only
(B) 1 and 3 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

29. A town planner is conducting scenario testing during a sensitivity analysis for a proposed solid waste processing plant. Which of the following changes would most likely decrease the project's Benefit-Cost Ratio (BCR)?
(A) A decrease in the social discount rate used for calculating NPV.
(B) An increase in the market price of compost produced by the plant.
(C) A reduction in the annual maintenance expenses for the facility.
(D) An unanticipated increase in capital construction costs by 20%.

30. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Shadow pricing is essential in the economic analysis of urban infrastructure projects in developing countries.
Reason (R): Market prices often do not reflect true economic values due to market imperfections, taxes, subsidies, and minimum wage laws.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

31. Which of the following methods relies on STATED preference rather than revealed preference to value environmental benefits, such as preserving a historic precinct?
(A) Hedonic Pricing Method
(B) Contingent Valuation Method
(C) Travel Cost Method
(D) Opportunity Cost Method

32. Arrange the following steps of conducting a Social Cost-Benefit Analysis (SCBA) for a new urban park in correct chronological order:
1. Discounting future costs and benefits to present value
2. Identification of physical impacts (e.g., number of trees, air quality improvement)
3. Valuation of impacts using shadow pricing or contingent valuation
4. Calculation of NPV and sensitivity analysis

(A) 2, 3, 1, 4
(B) 1, 2, 3, 4
(C) 3, 2, 4, 1
(D) 2, 1, 3, 4

33. Consider the following statements:
Statement I: The Capital Value system of property tax assessment is based on the current market value of the land and building.
Statement II: The Annual Rental Value (ARV)

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system bases the tax on the hypothetical rent the property could fetch in the market, ignoring its actual capital market price.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

34. Which of the following is NOT typically considered a component of a municipality's "own source revenue"?
(A) Property Tax collected from residents within the municipal boundaries.
(B) Advertisement Tax levied on commercial hoardings within city limits.
(C) Central Finance Commission grants given for municipal maintenance.
(D) Building permission fees charged for new construction within the city.

35. The concept of "full cost recovery" in setting user charges for urban water supply implies that the tariff structure must generate enough revenue to cover:
(A) Operation, maintenance, depreciation, and capital costs.
(B) Only the day-to-day operation and maintenance expenditures.
(C) Salaries of municipal employees across all urban departments.
(D) The cost of water treatment chemicals and additives alone.

36. Which of the following is an INCORRECTLY matched pair regarding infrastructure financing models?
(A) Municipal Bonds – Debt instruments issued by ULBs to raise capital for urban projects.
(B) Viability Gap Funding – Grants for projects that are economically but not financially viable.
(C) Pooled Finance – Grouping multiple smaller municipalities together to access capital markets.
(D) Urban Infrastructure Fund – Non-profit trusts established solely for distributing direct cash aid to slum residents.

37. What is the fundamental difference between taxable and tax-free municipal bonds in India?
(A) The issuing municipality is exempt from Goods and Services Tax.
(B) Investor interest is income tax exempt, allowing lower coupon rates.
(C) They can only be issued by metropolitan development authorities.
(D) They are strictly issued in foreign currency by the World Bank.

38. Match the Central Government schemes in List-I with their core financing focus related to urban infrastructure in List-II.
List I: Central Government Schemes
P. AMRUT
Q. Smart Cities Mission (SCM)
R. Swachh Bharat Mission (SBM)
S. PMAY-U
List II: Financing Focus
1. Financing for solid waste management and sanitation
2. Area-based development and pan-city smart solutions through SPVs
3. Water supply, sewerage, and green spaces in 500 cities
4. Credit-linked subsidies for urban affordable housing
(A) P-3, Q-2, R-1, S-4
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

39. In the context of Madhya Pradesh, which entity acts as the nodal agency for channeling institutional loans and external assistance for major urban infrastructure projects to Urban Local Bodies?
(A) Madhya Pradesh State Election Commission.
(B) Town and Country Planning Directorate.
(C) Madhya Pradesh Road Development Corporation.
(D) Madhya Pradesh Urban Development Company (MPUDC).

40. Consider the following statements regarding Green Bonds for urban infrastructure:
1. Green bonds are fixed-income instruments specifically earmarked to raise money for climate and environmental projects.
2. The proceeds from green bonds can be utilized for building coal-fired power plants to serve urban slums.

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CHAPTER 18
Urban Economics and Financial Planning

1. In urban economics, land is considered a unique economic resource primarily because its physical supply is perfectly inelastic. What is the immediate consequence of this inelasticity in a growing urban market?
(A) Rents increase due to fixed supply rather than physical expansion.
(B) Market prices are determined by the cumulative cost of land development.
(C) Value capture tools lose effectiveness because of supply constraints.
(D) Hoarding declines because land cannot be produced to satisfy demand.

2. Match the theoretical concepts of urban land economics in List-I with their original proponents or key features in List-II.
List I: Theoretical Concepts
P. Differential Land Rent
Q. Isolated State Model
R. Bid Rent Theory
S. Agglomeration Economies
List II: Proponents/Key Features
1. Johan von Thünen
2. David Ricardo
3. Alfred Marshall
4. William Alonso
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-2, Q-4, R-1, S-3

3. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, which mechanism is fundamentally utilized by Development Authorities in cities like Indore and Bhopal for recovering the cost of trunk infrastructure provision from private landowners?
(A) Levy of Development Charges
(B) Compulsory property tax increment financing
(C) Viability Gap Funding
(D) Internal Rate of Return indexing

4. Consider the following statements regarding Land Value Capture (LVC) instruments:
1. Betterment levy is a one-time charge imposed on landowners to capture the unearned increment in land value resulting from public infrastructure.
2. Transfer of Development Rights (TDR) severs the development potential from a land parcel and allows it to be sold or used elsewhere.
3. Land pooling is an LVC tool where a fraction of land is retained by the planning authority to finance infrastructure without cash acquisition.
4. Floor Area Ratio (FAR) cannot be monetized by the state as an LVC instrument under Indian planning frameworks.
Which of the statements given above are correct?
(A) 1, 2, and 4 only
(B) 2, 3, and 4 only
(C) 1, 2, and 3 only
(D) 1, 3, and 4 only

5. Which of the following statements accurately describes the bid rent curve for commercial land uses in a monocentric city?
(A) It remains horizontal since businesses are indifferent to distance from the core.
(B) It peaks sharply near the CBD as firms pay premiums for accessibility.
(C) It slopes upward as commercial rents increase further from the urban center.
(D) It stays flatter than residential curves due to large land needs on the edge.

6. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Agglomeration economies significantly increase urban land values in the Central Business District (CBD).
Reason (R): Firms clustering together reduce transportation and transaction costs while

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47. Which of the following actions would NOT improve the property tax collection efficiency of a Municipal Corporation?
(A) Implementation of a GIS-based property mapping system for the city.
(B) Shifting back to manual inspector-based discretionary assessment.
(C) Linking building plan approvals and utility connections to tax clearance.
(D) Introducing online payment portals and offering rebates for early payments.

48. Which of the following is an INCORRECTLY matched pair regarding external assistance for urban projects?
(A) World Bank – Finances the Capacity Building for Urban Development (CBUD) projects
(B) Asian Development Bank (ADB) – Provides sovereign loans for MP Urban Services Improvement Project (MPUSIP)
(C) HUDCO – A domestic techno-financial institution providing loans for urban housing and infrastructure
(D) JICA – Exclusively funds rural agricultural subsidies without any involvement in urban metro projects

49. Under the Municipal Finance Framework, what is the primary purpose of an "escrow account" when a ULB issues municipal bonds?
(A) Ring-fencing revenue streams to ensure timely debt servicing.
(B) Paying annual bonuses to municipal elected representatives of the ULB.
(C) Holding penalty fees collected from illegal construction projects.
(D) Transferring funds directly to informal sector workers in the city.

50. Match the following institutional models in List-I with their role in urban development in List-II.
List I: Institutional Models
P. State Finance Commission
Q. Special Purpose Vehicle (SPV)
R. Credit Rating Agency
S. Development Authority
List II: Role
1. Executes Smart City projects under the Companies Act
2. Assesses the financial risk of municipal bonds
3. Formulates the Master Plan and executes Town Planning Schemes
4. Recommends the devolution of financial resources to ULBs
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-1, R-4, S-2

51. The state of Madhya Pradesh utilizes a specialized IT platform for integrating all municipal services, including double-entry accounting and property tax collection, across its ULBs. What is the name of this project?
(A) e-Nagar Palika
(B) e-Bhoomi
(C) MP-UrbanNet
(D) Smart-MP

52. Consider the following statements regarding assigned revenues in municipal finance:
1. Assigned revenues are taxes and duties collected by the State Government and subsequently transferred to the ULBs.
2. A surcharge on stamp duty for property transfers is a common example of assigned revenue for ULBs.
3. Assigned revenues form a part of the ULB's own-source revenue (OSR).
4. Entertainment tax collected by the state is often assigned partially or fully to local bodies.
Which of the statements given above are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

53. An Urban Local Body (ULB) decides to utilize 'Tax Increment Financing' (TIF) to fund a new riverfront development. How does the ULB primarily generate the funds to repay the capital borrowed for this project?
(A) Levying a toll on the various roads leading to the new riverfront site.
(B) Capturing future incremental tax increases within the project area.
(C) Selling water rights of the river to private bottling plants in the area.

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3. Indore Municipal Corporation became the first civic body in India to issue green bonds for a solar power plant.
4. Green bonds typically require independent third-party verification to assure investors of the environmental impact.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, and 4 only

41. A municipal corporation is exploring a Public-Private Partnership (PPP) for a solid waste to energy plant. The private developer finds that the project has a high social return but the financial IRR is 3% below their hurdle rate. Which financial mechanism is most appropriate to make the project bankable for the developer?
(A) Increase the base property tax across the entire city
(B) Provide Viability Gap Funding (VGF) from the government
(C) Issue Tax-Free Municipal Bonds
(D) Transition to Accrual-Based Accounting

42. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The JNNURM financing structure relied heavily on reform-linked central grants, whereas the Smart Cities Mission emphasizes financing through Special Purpose Vehicles (SPVs) leveraging private capital.
Reason (R): SPVs have greater financial autonomy and capability to ring-fence revenues, issue bonds, and attract PPP investments compared to traditional municipal departments.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

43. Which of the following statements about the Devolution of Funds by State Finance Commissions (SFCs) is INCORRECT?
(A) SFC recommendations are purely advisory and can be modified or rejected by the State Legislature.
(B) SFCs recommend the principles governing the distribution of state tax revenues between the state and local bodies.
(C) SFCs review the financial position of both Panchayats and Municipalities.
(D) They determine the taxes, tolls, and fees that may be assigned to or appropriated by the local bodies.

44. Which of the following is a correctly matched pair regarding financial rating and assessment?
(A) Accrual Accounting – Recording transactions only when actual cash changes hands.
(B) Unit Area Method – Property tax based solely on the historical construction cost of the building.
(C) Credit Rating Agencies – Entities like CRISIL/ICRA that evaluate the debt-repayment capacity of Municipal Corporations.
(D) Double Entry System – An accounting method where assets are recorded twice to inflate municipal net worth.

45. Guidelines strongly advocate transitioning from cash-based accounting to a double-entry, accrual-based accounting system for Urban Local Bodies (ULBs). What is the main advantage of this transition?
(A) Permanently eliminating the need for periodic external financial audits.
(B) Automatically increasing grants from the Central Finance Commission.
(C) Hiding operational deficits from potential municipal bond investors.
(D) Capturing a true picture of assets to improve creditworthiness.

46. Which of the following represents the most effective non-tax revenue enhancement strategy for an Urban Local Body (ULB)?
(A) Slashing user charges for solid waste collection to zero for residents.
(B) Imposing higher octroi duties at city borders for industrial vehicles.
(C) Monetizing vacant land and leveraging advertisement rights.
(D) Requesting discretionary tied grants from the state for employee salaries.

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(A) A recurring annual tax on properties outside the municipal limits.
(B) A penalty on developers for delaying project completion under RERA.
(C) A fee charged for digitizing cadastral maps of the local authority.
(D) A one-time charge on land value increases from infrastructure.

62. Match the types of real estate assets in List-I with their characteristic market behaviors in List-II.
List I: Real Estate Assets
P. Residential Housing
Q. Commercial Office Space
R. Retail Malls
S. Industrial Warehousing
List II: Market Behaviors
1. Highly dependent on consumer footfall and catchment area demographics
2. Driven by logistics networks and proximity to highways/ports
3. Correlated strongly with employment growth and corporate expansions
4. Driven by household income, mortgage rates, and demographic shifts
(A) P-4, Q-3, R-1, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-3, Q-4, R-1, S-2

63. The Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh is primarily aimed at:
(A) Providing 100% Foreign Direct Investment in the real estate sector.
(B) Assisting ULBs with projects not covered by central schemes.
(C) Subsidizing agricultural land purchases in the urban periphery.
(D) Providing direct cash transfers to property tax defaulters in cities.

64. Consider the following statements regarding the SVAMITVA Scheme:
1. It aims to provide property validation solutions for rural and rural-urban fringe areas.
2. It empowers village household owners to use their property as a financial asset for securing bank loans.
3. The mapping is executed using drones by the Survey of India.
4. It is applicable exclusively to statutory municipal corporation boundaries.
Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

65. A Town Planner notices that the formal land market in a Tier-2 city is stagnant, yet unorganized plotting is expanding rapidly on agricultural land outside municipal limits. What is the most likely economic rationale for this trend?
(A) High formal taxes make informal land more affordable for many.
(B) Informal land markets offer stronger legal property rights for owners.
(C) National banks prefer financing informal properties due to flexibility.
(D) World Bank assistance is channeled exclusively to informal sectors.

66. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): In the preparation of a DPR, the economic cost of unskilled labor is often calculated at a rate lower than the official minimum wage using a shadow wage rate.
Reason (R): In economies with high unemployment, the true opportunity cost of employing an unskilled worker is lower than the mandated minimum wage.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

67. Which of the following statements about Infrastructure Investment Trusts (InvITs) is INCORRECT?
(A) InvITs are prohibited from distributing dividends or cash flows to their unit holders.
(B) InvITs pool money from investors and invest in operational, revenue-generating infrastructure assets.
(C) They provide a mechanism for infrastructure

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from the European Investment Bank (EIB) and Asian Development Bank (ADB). These loans represent which type of infrastructure financing?
(A) Municipal own-source revenues
(B) Central Finance Commission grants
(C) Multilateral external assistance
(D) Domestic retail bonds

83. A city planner notes that a new industrial park has caused neighboring residential property prices to fall due to noise and air pollution. In urban economics, this phenomenon is best described as:
(A) Negative externality
(B) Agglomeration economies
(C) Positive externality
(D) Land value capture

84. Which of the following is an INCORRECTLY matched pair regarding urban economic concepts?
(A) Floor Area Ratio (FAR) – The ratio of total covered area on all floors to the total plot area
(B) Land Banking – The practice of acquiring land in advance of expanding urbanization
(C) Occupancy Rights – Legal permission to occupy and use land, often without full ownership
(D) Cadastral Map – A map showing the distribution of demographic data like literacy rates

85. In Cost-Benefit Analysis, what is the definition of the "Social Discount Rate"?
(A) Interest rates commercial banks charge municipalities for loans.
(B) The rate used to convert future social impacts to present value.
(C) Property tax discounts offered by the city for early payment.
(D) Inflation rates applicable exclusively to construction materials.

86. Match the following Ministry of Housing and Urban Affairs (MoHUA) financing missions in List-I with their primary objective in List-II.
List I: MoHUA Missions
P. SBM (Urban)
Q. HRIDAY
R. AMRUT
S. NULM
List II: Primary Objective
1. Heritage city development and augmentation
2. Open Defecation Free (ODF) status and solid waste management
3. Poverty alleviation through skill development and self-employment
4. Universal coverage of water supply and sewerage
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-4, Q-1, R-2, S-3

87. Which authority in Madhya Pradesh is historically responsible for land banking and executing large-scale housing and commercial plotting schemes across the state?
(A) Madhya Pradesh State Election Commission.
(B) Directorate of Urban Administration and Development (UAD).
(C) State Finance Commission of Madhya Pradesh.
(D) Madhya Pradesh Housing and Infrastructure Development Board.

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88. Consider the following statements regarding Municipal Bonds:
1. They require the issuer to have a recognized credit rating.
2. The Ahmedabad Municipal Corporation was the first in India to issue municipal bonds without a state guarantee.
3. They can only be issued to finance the day-to-day administrative salaries of the municipality.
4. Escrow accounts are frequently used to guarantee repayment to bondholders.
Which of the statements given above are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, and 3 only

89. Consider the following statements:
Statement I: User charges for urban utilities should ideally recover the full cost of operation, maintenance, and capital depreciation to ensure financial sustainability.

(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-1, R-4, S-3

75. Under the Madhya Pradesh Municipal Corporation Act, 1956, which of the following is an obligatory tax that a Municipal Corporation MUST impose?
(A) Property Tax on lands and buildings
(B) Advertisement Tax on private hoardings
(C) Betterment Tax on Town Planning Schemes
(D) Tolls on vehicles entering the city limits

76. Consider the following statements regarding the Transfer of Development Rights (TDR):
1. TDR is issued in the form of a Development Rights Certificate (DRC).
2. TDR can be generated when land is surrendered free of cost for road widening.
3. The receiving zone for TDR is typically a highly congested core city area where infrastructure is already operating beyond capacity.
4. TDR allows a landowner to monetize the development potential of a restricted site.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

77. An urban local body wishes to improve its municipal credit rating to float bonds for a water supply project. Which action should the Chief Municipal Officer prioritize to achieve a higher investment-grade rating?
(A) Rely on discretionary state grants to cover revenue deficits.
(B) Maintain records on a cash basis to simplify financial audits.
(C) Defer long-term loan payments to show higher cash reserves.
(D) Enhancing own-source revenue and optimizing collections.

78. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): Real estate markets are often characterized by cyclical patterns of boom and bust.
Reason (R): The inelasticity of short-term housing supply causes prices to spike during demand surges, leading to overbuilding and subsequent market corrections.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

79. Which of the following is NOT an advantage of the Unit Area Method (UAM) of property tax assessment compared to the Annual Rental Value (ARV) system?
(A) UAM reduces the discretion of tax assessors.
(B) UAM perfectly captures the speculative, high market value of prime vacant land.
(C) UAM is more transparent as calculations are formula-based.
(D) UAM allows for easy self-assessment by property owners.

80. Arrange the typical hierarchy of land records digitisation and formalisation under schemes like DILRMP (Digital India Land Records Modernization Programme):
1. Computerization of textual Record of Rights (RoR)
2. Digitization of Cadastral Maps
3. Integration of textual and spatial data
4. Implementation of Conclusive Land Titling

(A) 1, 2, 3, 4
(B) 1, 2, 3, 4
(C) 1, 3, 2, 4
(D) 4, 3, 2, 1

81. Which of the following statements correctly identifies the function of the Real Estate (Regulation and Development) Act (RERA)?
(A) Protecting homebuyers by mandating registration and disclosures.
(B) Abolishing town planning approvals for projects under 5 hectares.
(C) Standardizing property tax rates across all various Indian states.
(D) Restricting foreign direct investment in commercial development.

82. In preparing the financial plan for the Bhopal Metro, the executing agency relies on loans

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extending Thünen's model to urban land uses

(D) Alfred Marshall – The theory of perfect inelasticity of urban housing demand

97. What is the primary focus of a "Double Entry Accounting System" in Urban Local Bodies?

(A) Ensuring every transaction affects at least two accounts.

(B) Recording every transaction in two separate physical ledgers.

(C) Doubling recorded revenue to qualify for higher state grants.

(D) Tracking physical assets without assigning monetary values to them.

98. Match the financial institutions in List-I with their primary function in urban finance in List-II.

List I: Financial Institutions

P. HUDCO

Q. NHB

R. JICA

S. CRISIL

List II: Primary Function

1. Provides bilateral international funding for major infrastructure like metros
2. Evaluates the creditworthiness of municipal entities
3. Acts as an apex financial institution for housing finance companies
4. Provides loans primarily for public housing and urban infrastructure in India

(A) P-4, Q-3, R-1, S-2

(B) P-3, Q-4, R-1, S-2

(C) P-1, Q-2, R-4, S-3

(D) P-4, Q-3, R-2, S-1

99. Under the Madhya Pradesh Town and Country Planning Act, 1973, how is the "accommodation reservation" or TDR conceptually applied to generate public amenities?

(A) Constructing amenities on-site in exchange for FAR elsewhere.

(B) Compulsory cash compensation under the 2013 Land Acquisition Act.

(C) Deducting the cost of the amenity directly from owner bank accounts.

(D) Banning development until the landowner pays a specific penalty.

100. Consider the following statements regarding the financial viability of mass transit projects:

1. Farebox revenues are usually sufficient to cover capital recovery and O&M costs in Indian cities.
2. Value capture financing tools like premium FAR near transit stations can bridge the funding gap.
3. Operating subsidies from state/local governments are often required to keep fares affordable.
4. Non-farebox revenues (advertising, station property development) play a crucial role in financial sustainability.

Which of the statements given above are correct?

(A) 1, 2, and 3 only

(B) 2, 3, and 4 only

(C) 1, 3, and 4 only

(D) 1, 2, 3, and 4

101. A proposal for a new flyover is evaluated using a Benefit-Cost Ratio (BCR) at a 10% discount rate. The BCR is 1.2. If the discount rate is increased to 15%, what is the most likely outcome for the BCR?

(A) The BCR will increase because future benefits are valued higher.

(B) The BCR will decrease as future benefits are discounted more.

(C) The BCR will remain exactly 1.2 as discount rates only affect NPV.

(D) The BCR will become negative regardless of the initial valuation.

102. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):

Assertion (A): In Cost-Benefit Analysis (CBA), depreciation of assets is typically excluded from the cash flow calculations.

Reason (R): CBA evaluates actual cash flows (capital expenditure when it occurs); including depreciation would result in double counting the capital cost.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

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Statement II: Lifeline tariffs (a highly subsidized rate for a basic minimum consumption level) violate the principle of full cost recovery and are strictly prohibited by the MoHUA Municipal Finance Framework.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

90. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): In India, Development Authorities often prefer Town Planning Schemes (TPS) / Land Pooling over direct land acquisition.
Reason (R): The Right to Fair Compensation and Transparency in Land Acquisition Act (RFCTLARR) made direct land acquisition highly time-consuming and financially burdensome for state agencies.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

91. Which of the following statements regarding the valuation of environmental benefits is INCORRECT?
(A) Revealed preference methodology relies on hypothetical surveys rather than observed behavior.
(B) Contingent valuation creates a hypothetical market to elicit willingness to pay.
(C) The hedonic pricing method relies on actual market data from real estate transactions.
(D) Environmental benefits are often classified as non-market goods because they are not traded directly in traditional markets.

92. Which of the following is a correctly matched pair regarding financial analysis metrics?
(A) Sunk Cost – A future cost that is highly dependent on the project's success
(B) Shadow Price – The artificially inflated price given by a monopolist
(C) Mutually Exclusive Projects – Projects where accepting one implies the rejection of the other
(D) Payback Period – The time required for a project to generate a return equal to double its investment

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93. What is the most appropriate rationale for treating "taxes" differently in Economic Analysis versus Financial Analysis of an urban project?
(A) Taxes are ignored in financial analysis because they are small.
(B) Economic analysis only considers international trade factors.
(C) Taxes are added as benefits in financial analysis to raise viability.
(D) Treating taxes as transfer payments rather than resource costs.

94. Which of the following strategies does NOT effectively address the problem of affordable land supply in urban areas?
(A) Encouraging higher FAR along urban transit corridors in the city.
(B) Implementing inclusionary zoning policies for low-income housing.
(C) Imposing a blanket freeze on all agricultural land conversions to urban use.
(D) Promoting land readjustment schemes to regularize fringe areas.

95. In analyzing the real estate market of a city, a planner observes that land prices at the edge of the municipal boundary have spiked immediately following the final publication of the Master Plan. This is an example of:
(A) Hedonic depreciation of properties due to pollution.
(B) Announcement effect and speculative capitalization.
(C) Rent control distortions within the urban land market.
(D) Agglomeration diseconomies occurring in the city center.

96. Which of the following is an INCORRECTLY matched pair regarding urban economic theories?
(A) David Ricardo – Differential rent based on land fertility/quality
(B) von Thünen – Rent determined by transportation costs to a central market
(C) William Alonso – Bid-rent function

ANSWERS

1. (A) Rents increase due to fixed supply rather than physical expansion.
Urban land is unique because its total physical supply is fixed and cannot be manufactured. When demand increases in a growing market, the inability to expand the land base leads to higher rents. This inelasticity ensures that price adjustments occur through increased land values rather than supply expansion, creating significant economic rent for existing owners.

2. (A) P-2, Q-1, R-4, S-3
David Ricardo introduced differential land rent based on fertility. Johan von Thünen developed the isolated state model focusing on transportation costs. William Alonso formulated the bid rent theory, extending these concepts to urban land uses and firm accessibility. Alfred Marshall explored agglomeration economies, where firms benefit from proximity to one another through knowledge spillovers and shared labor markets.

3. (A) Levy of Development Charges
Under the specific statutory provisions of the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, development authorities are empowered to recover costs for providing trunk infrastructure. This is achieved by imposing development charges on private landowners who benefit from urban services. This mechanism ensures that the financial burden of infrastructure expansion is shared by those receiving enhanced utility.

4. (C) 1, 2, and 3 only
Betterment levies capture unearned increments from public projects. Transfer of Development Rights allows the separation and sale of development potential between parcels. Land pooling enables authorities to retain land for infrastructure without initial cash payments. However, Floor Area Ratio can indeed be monetized as an instrument for land value capture through the sale of premium development rights to builders.

5. (B) It peaks sharply near the CBD as firms pay premiums for accessibility.
Commercial activities prioritize accessibility and customer proximity, making them willing to pay significantly higher rents for central locations. Consequently, the bid rent curve for these uses declines steeply as the distance from the central business district increases. This high premium reflects the trade-off between transportation savings and land costs within the urban core's competitive market.

6. (A) Both A and R are true and R is the correct explanation of A.
Agglomeration economies occur when firms cluster in the central business district to benefit from reduced transaction costs and specialized labor pools. These advantages enhance productivity, leading firms to bid higher for land in the urban core. This increased willingness to pay directly translates into higher land values, establishing a strong causal link between spatial clustering and economic rent.

7. (D) Transportation network improvements tend to make the land value gradient steeper over time.
Land values generally decrease with distance from the urban core, creating a negative exponential gradient. While sub-centers can create secondary peaks, infrastructure improvements typically reduce transportation costs and time. These enhancements make peripheral land more accessible and attractive, which actually tends to flatten the land value gradient rather than making it steeper, by narrowing the price gap across zones.

8. (A) 2, 3, 4, 1
Real estate market cycles follow a predictable sequence starting with recovery, where vacancies decline without new construction. This leads to an expansion or boom phase characterized by rising rents and new projects. Eventually, hyper-supply occurs as completions outpace demand, causing vacancies to rise. Finally, the market enters a recession or bust, marked by further increasing vacancies and falling rents.

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103. Consider the following statements:
Statement I: An increase in land prices automatically implies an increase in the affordability of housing for lower-income groups.
Statement II: Speculative land hoarding restricts the supply of developable land, exacerbating the affordable housing crisis.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is false but Statement II is true.
(D) Statement I is true but Statement II is false.

104. Arrange the chronological steps involved in executing a typical Town Planning Scheme (Land Pooling) for infrastructure development:
1. Preparation and publication of the Draft Scheme marking proposed roads/amenities
2. Declaration of intention to make a scheme
3. Reconstitution of plots and calculation of betterment contribution/compensation
4. Final sanction by the State Government and implementation

(A) 2, 1, 3, 4
(B) 1, 2, 3, 4
(C) 2, 3, 1, 4
(D) 3, 1, 2, 4

105. Which of the following statements accurately reflects the impact of the implementation of the Goods and Services Tax (GST) on municipal finance in India?
(A) GST substantially increased the direct tax powers of corporations.
(B) Subsuming local taxes made ULBs dependent on state grants.
(C) GST allowed ULBs to independently levy a municipal income tax.
(D) GST implementation eliminated the need for Finance Commissions.

106. Which is the best mechanism for an Urban Local Body to ensure full cost recovery for a solid waste management service?
(A) Depending entirely on corporate social responsibility funding.
(B) Levying a user charge proportional to the volume of waste.
(C) Issuing long-term tax-free bonds for solid waste management.
(D) Selling municipal land banks to private developers for projects.

107. A city implements a "Betterment Levy" on properties abutting a newly widened arterial road. Conceptually, this is an application of which economic principle?
(A) Land Value Capture of unearned increments
(B) The Tragedy of the Commons
(C) Price Elasticity of Demand
(D) Hedonic Depreciation

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108. Which of the following is an INCORRECTLY matched pair regarding infrastructure financing?
(A) Commercial bank loans – Debt financing requiring collateral or state guarantees
(B) Finance Commission grants – Intergovernmental transfers based on population and performance
(C) External Commercial Borrowings – Domestic loans raised from local cooperative banks in INR
(D) Investment Trusts (InvITs) – Pooled vehicles for investing in operational infrastructure

109. What defines "Shadow Pricing" in the context of economic analysis?
(A) Hiding the actual cost of a project from regular public scrutiny.
(B) Pricing illegal land transactions found in various informal markets.
(C) Mapping shadows cast by high-rise buildings in the urban design.
(D) Adjusting market prices to reflect true economic opportunity cost.

110. Match the Central Finance Commission (CFC) grant types in List-I with their characteristics in List-II.
List I: CFC Grant Types
P. Basic/Untied Grants
Q. Tied Grants
R. Performance Grants
S. SFC Grants
List II: Characteristics
1. Conditioned upon improving specific indicators like audited accounts or tax collection
2. Used for any location-specific municipal need like paying salaries or general maintenance

developers to monetize their assets and free up capital.
(D) They are regulated by the Securities and Exchange Board of India (SEBI).

68. Which of the following is a correctly matched pair regarding municipal accounting reforms?
(A) Accrual Basis – Recognizing revenues and expenses only when actual cash changes hands.
(B) Cash Basis – Recognizing revenues when earned and expenses when incurred regardless of cash flow.
(C) Asset Revaluation – The practice of decreasing asset values to increase borrowing capacity.
(D) Balance Sheet – A financial statement showing the assets, liabilities, and equity of a ULB at a specific point in time.

69. Consider the following statements:
Statement I: Speculation in the urban land market tends to inflate land prices by restricting the immediate supply of developable land.
Statement II: A vacant land tax is often recommended by urban economists to penalize land hoarding and force speculative parcels into active development.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

70. Among the following options, which represents the most appropriate justification for employing the 'Hedonic Pricing Method' in urban economics?
(A) Calculating the exact cost of laying a new sewer line in the city.
(B) Determining the optimum capacity of a solid waste management truck.
(C) Estimating noise reduction value by analyzing housing prices.
(D) Projecting the future population of a specific metropolitan region.

71. Under a Land Readjustment mechanism, the "retained land" (the percentage of land kept by the planning authority) is primarily utilized for:
(A) Developing heavy manufacturing industries exclusively for the city.
(B) Transferring ownership to the Central Government for security use.
(C) Building permanent agricultural research facilities for rural areas.
(D) Creating public infrastructure and selling portions to fund it.

72. Which of the following is an INCORRECTLY matched pair regarding cost categories in Cost-Benefit Analysis?
(A) Intangible Cost – Costs that are easily quantifiable in market prices, such as the price of steel and concrete.
(B) Capital Cost – Initial expenditure on civil works, machinery, and land acquisition.
(C) Operating Cost – Recurring expenses on energy, raw materials, and staff salaries.
(D) External Cost – Negative third-party impacts, such as downstream water pollution.

73. What is the fundamental principle of 'Value Capture Financing' (VCF) in urban infrastructure?
(A) The state acquires private land at market rates to build housing.
(B) Capturing unearned land value gains from public investment.
(C) Municipalities capture all exchange value changes in foreign loans.
(D) Private developers capture 100% of value from municipal bonds.

74. Match the valuation approaches in List-I with their standard definitions in List-II.
List I: Valuation Approaches
P. Income Approach
Q. Sales Comparison Approach
R. Cost Approach
S. Contingent Valuation
List II: Definitions
1. Values a property based on recent sales of similar properties
2. Values a property based on the land value plus the depreciated cost of replacing the building
3. Values a property based on the capitalized net rent it can generate
4. Values non-market goods using willingness-to-pay surveys
(A) P-3, Q-1, R-2, S-4

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118. Which of the following is NOT an advantage of digitizing cadastral maps and integrating them with the Record of Rights (RoR)?

(A) It reduces land disputes by providing clear spatial boundaries linked to textual ownership data.

(B) It facilitates easier property tax assessment and collection using GIS.

(C) It legally extinguishes all pre-existing traditional tribal land rights without any requirement for compensation.

(D) It expedites the process of land acquisition and compensation calculation for public projects.

119. If a state government shifts from calculating property tax based on Annual Rental Value (ARV) to a Capital Value System, how will it most likely impact the tax liability of a highly valued but vacant commercial plot?

(A) Tax liability will decrease to zero because it generates no rent.

(B) The tax liability for the plot will remain exactly the same amount.

(C) The property will be exempt from tax under the Capital Value system.

(D) Liability will increase as it is taxed on market capital value.

120. Which of the following is an INCORRECTLY matched pair regarding urban economic mechanisms?

(A) Elasticity of Land Supply – A condition where urban land supply changes drastically with small price changes.

(B) Land Value Gradient – The rate at which land values decline moving outward from the CBD.

(C) Monocentric City Model – An urban model assuming all employment is concentrated in a single central core.

(D) Subsidized User Charge – Setting utility tariffs below the actual cost of service provision to ensure affordability.

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3. Earmarked specifically for national priorities like water supply and solid waste management
4. Devolution of state-level taxes as recommended by state-level bodies

(A) P-2, Q-3, R-1, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-1, R-3, S-4

111. Which city was notably among the first in Madhya Pradesh to successfully issue municipal bonds (subsequently listing on the NSE) to fund projects under the Smart Cities Mission and AMRUT?
(A) Ujjain
(B) Indore
(C) Gwalior
(D) Sagar

112. Consider the following statements regarding the Real Estate (Regulation and Development) Act, 2016 (RERA):
1. It aims to eliminate information asymmetry between property buyers and developers.
2. It mandates developers to deposit a specific percentage of project funds in an escrow account.
3. It applies only to commercial real estate, completely exempting residential housing.
4. It requires mandatory registration of real estate agents.

Which of the statements given above are correct?
(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

113. A planner wants to value the preservation of a wetland based on the amount of money visitors spend traveling to the site. Which environmental valuation method is being employed?
(A) Travel Cost Method
(B) Hedonic Pricing Method
(C) Contingent Valuation Method
(D) Shadow Wage Method

114. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R):
Assertion (A): The Net Present Value (NPV) is considered a more reliable criterion than the Internal Rate of Return (IRR) for selecting among mutually exclusive urban projects.
Reason (R): NPV indicates the absolute magnitude of wealth addition to society, whereas IRR only gives a percentage rate and can be misleading for projects of different scales.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

115. Which of the following statements regarding 'Development Charges' is INCORRECT?
(A) They are purely voluntary contributions made by developers to local NGOs.
(B) They are levied on applicants seeking planning permission to construct or develop land.
(C) They are designed to cover the off-site infrastructure costs incurred by the local authority.
(D) The rates are often calculated based on the plot area, built-up area, and nature of use.

116. Which of the following is a correctly matched pair regarding project evaluation parameters?
(A) Discounting – The process of increasing future values to account for inflation.
(B) Asset Valuation – Valuing property strictly based on its historical construction cost.
(C) FAR – The ratio of total plot area to the width of the fronting road.
(D) Sensitivity Analysis – Testing project viability under various adverse scenarios.

117. Consider the following statements:
Statement I: Official guidelines encourage ULBs to maximize their dependence on State Finance Commission grants rather than developing own-source revenues.
Statement II: A higher proportion of own-source revenue to total revenue generally improves a municipality's credit rating.
Which of the above statements is/are correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

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9. (B) Developers pay fees for extra rights, funding public infrastructure.
Premium Floor Area Ratio allows developers to exceed standard building limits in exchange for a fee paid to the local authority. This mechanism functions as a land value capture tool by monetizing the additional development potential created by zoning regulations. The resulting revenue is typically earmarked for financing essential public infrastructure, effectively taxing the unearned increment generated by increased density.

10. (B) Lack of reliable mechanisms for property valuation and assessment.
Effective land value capture requires accurate identification of the value increases resulting from public interventions. In many Indian cities, the absence of robust, transparent, and updated property valuation systems prevents authorities from determining the correct levies. Without reliable assessment mechanisms, implementation remains inconsistent, as the state cannot effectively quantify or collect the unearned increments intended for infrastructure financing.

11. (A) Leasehold – Rights to use land under specific conditions for a predetermined period without full ownership.
Leasehold tenure provides individuals with the right to use and occupy land for a specific duration, subject to the terms of a lease agreement. Unlike freehold, which grants absolute ownership in perpetuity, leasehold involves a temporary transfer of rights from a lessor. This system is common in urban development, where authorities maintain long-term control while enabling private usage.

12. (C) Speculation – Purchasing land strictly for immediate agricultural use and crop yields
Speculation involves purchasing land with the primary intention of selling it later at a higher price, rather than utilizing it for immediate productive use like agriculture. This practice is driven by the expectation of future price appreciation due to urbanization or development projects. In contrast, land banking is a strategic public acquisition, while formal markets involve recorded and legal transactions.

13. (D) Drone technology and Continuously Operating Reference Stations (CORS).
The SVAMITVA scheme utilizes advanced drone technology to map inhabited land parcels in rural and peri-urban areas. By combining high-resolution aerial imagery with the precision of Continuously Operating Reference Stations, the scheme creates accurate cadastral maps. This modernized approach enables the generation of property cards and official records of rights, which are essential for securing financial loans and assets.

14. (A) P-2, Q-4, R-1, S-3
A Khasra serves as a detailed registry of individual agricultural parcels. Cadastral maps are large-scale representations that define precise physical boundaries of land units. The Record of Rights provides essential details regarding ownership, tenancy, and liabilities. Mutation is the administrative process through which the title of ownership is updated in the official revenue records following a property transfer.

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15. (B) Requiring 70% of allottee funds be held in a separate bank account.
The Real Estate Regulatory Authority enforces financial discipline by mandating that developers deposit seventy percent of project collections into a dedicated escrow account. This requirement ensures that funds provided by buyers are used exclusively for construction and land costs of that specific project. By preventing the diversion of money, the regulation reduces risks of project delays and developer defaults.

16. (B) 1, 2, and 4 only
Mass transit proximity and reliable utility services like water and sewerage significantly enhance residential land values through improved accessibility and living standards. Furthermore, the mere announcement of new infrastructure projects often triggers speculative price increases. However, heavy industrial development typically creates negative externalities like pollution and noise, which can actually decrease the value of adjacent premium residential land parcels.

17. (A) Transferring private land ownership to the state without any form of compensation.
Land readjustment aims for equitable development by pooling private parcels to provide

fees. Central Finance Commission grants are intergovernmental transfers from the national level to local bodies. Although these grants are vital for funding maintenance and services, they are not generated internally by the municipality.

35. (A) Operation, maintenance, depreciation, and capital costs.
Achieving full cost recovery in urban water supply requires a tariff structure that generates sufficient revenue to cover all expenditures. This includes daily operation and maintenance, the depreciation of existing assets, and the recovery of initial capital investments. Such a comprehensive financial model ensures that the utility can sustain itself, improve service quality, and fund future infrastructure expansions without external subsidies.

36. (D) Urban Infrastructure Fund – Non-profit trusts established solely for distributing direct cash aid to slum residents.
Urban infrastructure funds are specialized financial mechanisms designed to pool resources and provide loans or grants for large-scale urban development projects. They are not intended for direct cash transfers to individuals. Conversely, municipal bonds are debt instruments for raising capital, viability gap funding supports economically viable projects, and pooled finance allows smaller municipalities to access markets by aggregating their projects.

37. (B) Investor interest is income tax exempt, allowing lower coupon rates.
Tax-free municipal bonds offer an incentive where the interest earned by investors is exempt from income tax. This exemption makes the bonds highly attractive even with lower coupon rates, thereby reducing the borrowing cost for the issuing municipality. Taxable bonds do not provide this benefit, meaning the municipality must offer higher interest rates to compete with other market investment opportunities.

38. (A) P-3, Q-2, R-1, S-4
AMRUT focuses on basic infrastructure like water supply and sewerage in five hundred cities. The Smart Cities Mission utilizes Special Purpose Vehicles for area-based development. Swachh Bharat Mission targets sanitation and solid waste management. PMAY-U provides credit-linked subsidies to make urban housing affordable. Together, these missions form the backbone of central financing for diverse urban development needs across India.

39. (D) Madhya Pradesh Urban Development Company (MPUDC).
The Madhya Pradesh Urban Development Company serves as the primary nodal agency for managing external assistance and institutional financing in the state's urban sector. It channels funds from multilateral organizations like the World Bank and Asian Development Bank to various Urban Local Bodies. The company plays a critical role in implementing large-scale infrastructure projects while ensuring financial compliance and technical standards.

40. (B) 1, 3, and 4 only
Green bonds are specifically designed to fund environmentally sustainable projects and require third-party verification to ensure their ecological impact. Indore Municipal Corporation was a pioneer in India by issuing these bonds for a solar plant. However, the proceeds from green bonds are strictly prohibited from being used for fossil fuel projects, such as coal-fired power plants, as they contradict environmental goals.

41. (B) Provide Viability Gap Funding (VGF) from the government
Viability Gap Funding is a one-time grant provided by the government to support infrastructure projects that are economically justified but lack financial profitability. By bridging the gap between the project's actual internal rate of return and the developer's required hurdle rate, VGF makes essential public-private partnership projects bankable. This mechanism is ideal for high-impact projects like waste-to-energy plants that face initial financial challenges.

42. (A) Both A and R are true and R is the correct explanation of A.
Unlike the grant-heavy model of JNNURM, the Smart Cities Mission utilizes Special Purpose Vehicles to drive development. These SPVs function under the Companies Act, providing the financial autonomy needed to leverage private capital and ring-fence revenues. This institutional structure is specifically designed to bypass traditional municipal bureaucratic constraints,

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social welfare by selecting projects with the highest net impact.

26. (A) P-2, Q-4, R-3, S-1
Direct capital costs for a metro include physical assets like rolling stock and stations. Indirect benefits encompass positive externalities like reduced congestion for non-users. Operation and maintenance costs involve recurring expenses such as staff salaries and electricity. Intangible benefits are social impacts that are difficult to quantify monetarily, such as enhanced civic pride and significant reductions in greenhouse gas emissions.

27. (A) Because public health and environmental benefits must be quantified.
Financial analysis often fails to capture the full value of sewerage projects because direct user fees rarely cover total costs. Social Cost-Benefit Analysis is preferred because it quantifies vital non-market impacts, such as improved public health outcomes and the prevention of environmental pollution. These societal gains are essential for justifying large public investments that may not be financially self-sustaining.

28. (B) 1 and 3 only
The Internal Rate of Return is the discount rate where the Net Present Value equals zero. While it is a useful metric, projects with non-conventional cash flows can produce multiple IRRs, making analysis complex. A project is viable only if its IRR exceeds the social discount rate. Furthermore, the highest IRR does not always correspond to the highest NPV for mutually exclusive projects.

29. (D) An unanticipated increase in capital construction costs by 20%.
The Benefit-Cost Ratio measures the total present value of benefits relative to the total present value of costs. Any significant increase in capital construction expenses directly raises the denominator of this ratio. Consequently, unless there is a matching rise in benefits, an unanticipated increase in costs will result in a lower BCR, potentially making the proposed waste processing plant less viable.

30. (A) Both A and R are true and R is the correct explanation of A.
Market prices in developing economies are frequently distorted by subsidies, taxes, and labor regulations, failing to represent the actual opportunity cost of resources. Shadow pricing is essential in economic analysis because it adjusts these market values to reflect true social costs and benefits. This correction ensures that urban infrastructure projects are evaluated based on their actual impact on national economic welfare.

31. (B) Contingent Valuation Method
The Contingent Valuation Method is a stated preference technique that directly asks individuals about their willingness to pay for a specific environmental improvement or preservation effort. Unlike revealed preference methods like hedonic pricing or travel cost, which rely on observed market behavior, this approach uses surveys to create a hypothetical market. It is particularly useful for valuing unique non-market goods.

32. (A) 2, 3, 1, 4
The social cost-benefit analysis begins by identifying the physical impacts of the proposed park. Once identified, these impacts are valued using techniques like shadow pricing or contingent valuation. These future values are then discounted to their current worth. Finally, the net present value is calculated, and sensitivity analysis is performed to test the project's robustness under different economic scenarios.

33. (A) Both Statement I and Statement II are true.
The capital value system assesses property tax based on the current market price of the land and structures. In contrast, the annual rental value system determines tax liability according to the potential rent a property could earn, rather than its sale value. Both systems are fundamental methods used by municipalities to generate revenue from real estate within their administrative boundaries.

34. (C) Central Finance Commission grants given for municipal maintenance.
Own-source revenue consists of taxes and non-tax incomes that a municipality has the authority to levy and collect directly, such as property taxes, advertisement taxes, and building permission

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public amenities and infrastructure. While owners surrender a portion of their land, they receive a reconstituted plot that is smaller but significantly more valuable due to improvements. The process is a collaborative alternative to compulsory acquisition and does not involve the uncompensated transfer of ownership to the state.

18. (A) Both A and R are true and R is the correct explanation of A.
Fast-growing cities often face a shortage of affordable, legally developed land due to stringent zoning and high transaction costs. These barriers, combined with limited formal housing options, compel lower-income residents to seek housing in informal markets on the urban periphery. These markets operate outside official regulations, providing a flexible but legally precarious solution to the urgent demand for shelter.

19. (C) Statement I is true but Statement II is false.
High stamp duty rates often lead to the under-reporting of property values to reduce tax liability. While digitizing records improves transparency and access, it does not automatically establish a system of conclusive land titling. Achieving conclusive titling requires fundamental legislative amendments to the Registration Act to shift from a presumptive system to one where the state guarantees property titles.

20. (D) Mandating affordable plots in new layouts offset by premium FAR.
A sustainable strategy for affordable land supply involves integrating low-income housing requirements into new private developments. By mandating a percentage of affordable plots and compensating developers with premium Floor Area Ratio, the authority incentivizes participation without direct financial subsidies. This cross-subsidy model leverages market forces to expand housing accessibility while maintaining the economic viability of urban expansion projects.

21. (B) Checking if the present value of benefits exceeds the present costs.
Net Present Value is a fundamental metric used to determine the economic viability of a project by comparing the current value of all expected benefits against all costs. By discounting future cash flows to their present worth, NPV accounts for the time value of money. A positive result indicates that the project's total benefits outweigh its total investment requirements.

22. (C) Economic analysis treats taxes and subsidies as direct resource costs and benefits.
Financial analysis focuses on actual cash flows from an investor's perspective, including taxes and subsidies. In contrast, economic analysis examines the broader impact on society and treats taxes and subsidies as transfer payments between stakeholders rather than actual resource costs. It uses shadow pricing to adjust for market distortions, reflecting the true opportunity cost of resources used in projects.

23. (D) Internal Rate of Return (IRR) – The discount rate that makes the project's NPV equal to zero.
The Internal Rate of Return represents the specific discount rate at which the present value of a project's benefits equals its costs, resulting in a net present value of zero. It is used as a benchmark to compare project profitability against the cost of capital. Unlike simple sums, IRR accounts for the timing and magnitude of all cash flows.

24. (A) Replacement Cost Method – Assessing project profitability by projecting future property tax revenue.
The replacement cost method estimates the value of an environmental good based on the expense of replacing it or providing a substitute service. It is not used for projecting tax revenues or general project profitability. Conversely, hedonic pricing analyzes property market data, contingent valuation uses surveys for willingness-to-pay, and the travel cost method assesses the value of recreational locations.

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25. (B) Allocating scarce resources to maximize the net social welfare.
Cost-Benefit Analysis provides a systematic framework to evaluate whether a public project, such as water supply, provides a net gain to society. By quantifying and comparing total costs and benefits, decision-makers can ensure that limited public funds are directed toward the most efficient uses. This process aims to maximize

enabling more efficient project execution and the successful implementation of public-private partnerships.

43. (A) SFC recommendations are purely advisory and can be modified or rejected by the State Legislature.
While the State Legislature ultimately decides on the implementation, the State Finance Commission is a constitutionally mandated body whose primary role is to ensure the financial health of local governments. It reviews the financial positions of municipalities and recommends principles for tax distribution. Describing its role as purely advisory oversimplifies its constitutional significance in determining the fiscal devolution between state and local levels.

44. (C) Credit Rating Agencies – Entities like CRISIL/ ICRA that evaluate the debt-repayment capacity of Municipal Corporations.
Credit rating agencies provide independent assessments of a municipality's ability to service its debt and meet financial obligations. These ratings are crucial for Urban Local Bodies seeking to access capital markets through bond issuances. In contrast, accrual accounting recognizes transactions when they occur, not just when cash moves, and the double-entry system is a standard method ensuring financial balance and accuracy.

45. (D) Capturing a true picture of assets to improve creditworthiness.
Transitioning to accrual-based accounting allows Urban Local Bodies to record financial activities as they occur, providing a comprehensive view of liabilities and assets. Unlike cash-based systems, this method reflects the actual fiscal health and long-term obligations of the municipality. A transparent and accurate balance sheet is essential for improving credit ratings and attracting investors for municipal bonds and infrastructure projects.

46. (C) Monetizing vacant land and leveraging advertisement rights.
Non-tax revenue enhancement involves maximizing income from municipal assets and services. Monetizing surplus vacant land through leases or development and selling advertisement rights on public property are highly effective strategies. These methods provide sustainable revenue streams without increasing the tax burden on residents. Such approaches improve the financial autonomy of local bodies and their capacity to fund essential urban services.

47. (B) Shifting back to manual inspector-based discretionary assessment.
Modernizing property tax collection involves using GIS mapping, online portals, and linking tax clearance to utility services. These measures reduce corruption and increase transparency. Reverting to manual, inspector-based assessments introduces significant discretion and potential for under-assessment, which typically decreases collection efficiency. Sustainable improvements in revenue require standardized, formula-based systems like the unit area method to ensure fairness and minimize administrative leaks.

48. (D) JICA – Exclusively funds rural agricultural subsidies without any involvement in urban metro projects
The Japan International Cooperation Agency is a major provider of official development assistance for large-scale urban infrastructure projects in India, particularly metro rail networks. Stating that it exclusively funds rural subsidies is incorrect. Other entities like the World Bank, Asian Development Bank, and HUDCO are also active, providing critical financing and technical expertise for urban housing, services, and capacity building.

49. (A) Ring-fencing revenue streams to ensure timely debt servicing.
When a municipality issues bonds, an escrow account is established to provide security for investors. Specific revenue streams, such as property tax or user charges, are directly deposited into this account to be used exclusively for debt repayment. This ring-fencing mechanism minimizes the risk of default and is a critical requirement for obtaining favorable credit ratings and attracting bondholders.

50. (A) P-4, Q-1, R-2, S-3
The State Finance Commission recommends the devolution of financial resources to local bodies. Special Purpose Vehicles are established under the Companies Act to execute smart city initiatives. Credit Rating Agencies assess the financial risks associated with municipal debt.

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Development Authorities are responsible for formulating master plans and executing town planning schemes, ensuring coordinated urban growth and infrastructure development across specific regions.

51. (A) e-Nagar Palika
The e-Nagar Palika project in Madhya Pradesh is a comprehensive digital platform designed to modernize and integrate municipal services across Urban Local Bodies. It facilitates various functions, including online property tax payments, double-entry accounting, and the issuance of birth and death certificates. This initiative aims to enhance transparency, improve efficiency in revenue collection, and provide citizens with easier access to services.

52. (A) 1, 2, and 4 only
Assigned revenues consist of taxes like entertainment tax and stamp duty surcharges that are collected by the State Government and then transferred to Urban Local Bodies. While these funds are important for municipal budgets, they are distinct from own-source revenue, which the ULB collects directly. This intergovernmental transfer mechanism helps supplement local finances using established state-level tax collection systems.

53. (B) Capturing future incremental tax increases within the project area.
Tax Increment Financing is a land value capture tool where the expected increase in property tax revenue from a developed area is used to repay project costs. As infrastructure like a riverfront increases local property values, the resulting additional tax revenue is ring-fenced for debt servicing. This allows municipalities to fund major improvements today by borrowing against the future fiscal gains they create.

54. (A) Both A and R are true and R is the correct explanation of A.
Smaller municipal bodies often struggle to access capital markets independently due to their limited scale and lack of individual credit ratings. Pooled finance mechanisms address this by aggregating multiple small projects into a larger, more attractive investment package. This approach diversifies financial risk for investors and significantly lowers the cost of borrowing, enabling smaller towns to fund essential infrastructure improvements.

55. (A) Both Statement I and Statement II are true.
Capital value-based property tax systems are more responsive to market trends than rent-controlled annual rental value systems. This elasticity ensures that municipal revenues grow alongside rising land prices. The unit area method provides a transparent calculation based on building size and zonal factors, which simplifies assessment and reduces administrative discretion. Both systems represent significant advancements over traditional property tax assessment methods.

56. (A) 2, 1, 3, 4
Raising capital through municipal bonds begins with implementing double-entry accrual accounting to establish financial transparency. Next, the municipality must obtain a credit rating to demonstrate its repayment capacity to potential investors. A transaction advisor or merchant banker is then appointed to manage the issuance process. Finally, the bonds are listed on a stock exchange to facilitate trading and provide liquidity.

57. (B) Using it as the discount rate for NPV to set minimum return rates.
In project appraisal, the cost of capital represents the required rate of return for an investment. It is typically used as the discount rate when calculating the Net Present Value to determine if a project meets minimum financial thresholds. This ensures that the capital invested yields a return at least equal to what could be earned from alternative investments of similar risk.

58. (B) Implementation of stringent rent control legislations
Positive externalities, transit-oriented development, and agglomeration economies all enhance the attractiveness and productivity of land, leading to higher values. Conversely, stringent rent control legislations cap the potential income from properties. These restrictions often discourage investment and maintenance, which can suppress market values and distort land markets, rather than contributing to the natural growth of urban land prices.

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59. (A) Premium retail/offices deriving high profit from accessibility.
According to the bid rent theory, different land uses compete for proximity to the urban core. Premium retail and office functions benefit most from accessibility and face-to-face interactions, allowing them to generate high profits. Consequently, they are willing to outbid other uses like manufacturing or residential for the centralmost locations. This competition creates the characteristic land-use pattern seen in many cities.

60. (C) IRR < Discount Rate – The project should be immediately accepted for investment
A project is financially viable when its Internal Rate of Return is greater than the discount rate or cost of capital. If the IRR is lower than the discount rate, it indicates that the project's returns do not meet the minimum requirements, and it should typically be rejected. Conversely, a positive NPV and a BCR greater than one signify economic viability.

61. (D) A one-time charge on land value increases from infrastructure.
A betterment levy is a form of land value capture imposed on landowners whose property values have risen significantly due to specific public infrastructure projects. This one-time charge allows the planning authority to recover part of the unearned increment resulting from state-led improvements. It is a common feature in town planning schemes where land is upgraded through new roads or services.

62. (A) P-4, Q-3, R-1, S-2
Residential markets respond to household incomes and mortgage rates, while commercial office demand is driven by corporate growth and employment. Retail success is tied to footfall and local demographics, whereas industrial warehousing is heavily dependent on logistics and transport connectivity. Each real estate segment reacts differently to economic signals, necessitating tailored planning and investment strategies for urban development.

63. (B) Assisting ULBs with projects not covered by central schemes.
The Chief Minister Urban Infrastructure Development Scheme is designed to provide financial assistance to Urban Local Bodies in Madhya Pradesh for essential infrastructure projects. Its primary role is to fund initiatives that do not fall under the purview of major central missions like AMRUT or SCM. This ensures that smaller towns and specific local needs receive adequate funding for urban upgrades.

64. (A) 1, 2, and 3 only
The SVAMITVA scheme provides property validation in rural and fringe areas by using drones to create accurate digital records. These official records empower household owners to use their property as collateral for bank loans. While highly effective in inhabited rural areas (Abadi), the scheme does not apply to lands already under the jurisdiction of statutory municipal corporations or urban bodies.

65. (A) High formal taxes make informal land more affordable for many.
Rapid growth in informal land markets often results from the high costs associated with formal development, including taxes, stamp duties, and regulatory compliance. These expenses make legally developed land unaffordable for a large segment of the population. Informal plotting offers a lower-cost alternative, enabling residents to access land for housing without the financial burden and complexities of the formal sector.

66. (A) Both A and R are true and R is the correct explanation of A.
In economies with high unemployment, the official minimum wage may be higher than what a worker would earn in an alternative activity. The shadow wage rate reflects this true opportunity cost of labor. In economic analysis, using a shadow wage that is lower than the market wage provides a more accurate assessment of the project's actual cost to society.

67. (A) InvITs are prohibited from distributing dividends or cash flows to their unit holders.
Infrastructure Investment Trusts are specialized vehicles designed to pool capital from investors to fund operational, income-generating infrastructure assets. They are regulated by SEBI and are specifically required to distribute a significant portion of their net cash flows as dividends to unit holders. This mechanism allows developers to monetize assets while providing

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occupancy rights are correctly defined in their respective urban planning contexts.

85. (B) The rate used to convert future social impacts to present value.
The social discount rate is used in economic analysis to calculate the present value of future societal costs and benefits. It reflects the rate at which society is willing to trade current consumption for future benefits. Choosing an appropriate social discount rate is vital, as it determines how much importance is given to the long-term impacts of public infrastructure projects.

86. (A) P-2, Q-1, R-4, S-3
Swachh Bharat Mission (Urban) focuses on sanitation and solid waste management. HRIDAY targets the preservation and development of heritage cities. AMRUT aims to provide universal coverage for water supply and sewerage services. NULM focuses on alleviating urban poverty through skill training and self-employment. Each mission addresses a specific pillar of urban development, from basic utilities to cultural heritage and social welfare.

87. (D) Madhya Pradesh Housing and Infrastructure Development Board.
The Madhya Pradesh Housing and Infrastructure Development Board is the primary state entity responsible for large-scale land acquisition and the development of housing colonies. It executes residential, commercial, and plotting schemes across the state, acting as a major land banker. The board aims to provide diverse housing options for different income groups while ensuring planned urban growth throughout various cities.

88. (A) 1, 2, and 4 only
Municipal bonds are sophisticated debt instruments that require credit ratings and often utilize escrow accounts to ensure debt servicing. Ahmedabad was a pioneer in using these bonds without state guarantees. However, these bonds are intended to finance capital-intensive infrastructure projects, not for paying daily administrative salaries. Using long-term debt to fund recurring operational expenses is generally considered a poor financial practice.

89. (C) Statement I is true but Statement II is false.
While full cost recovery is a key goal for financial sustainability, it does not strictly prohibit lifeline tariffs. These subsidized rates for basic consumption ensure that essential services remain affordable for low-income households. The municipal finance framework often encourages a balanced approach where higher-volume users cross-subsidize those with minimal needs, fulfilling both social equity and overall revenue requirements for the utility.

90. (A) Both A and R are true and R is the correct explanation of A.
The Right to Fair Compensation and Transparency in Land Acquisition Act introduced significant compensation requirements and social impact assessments, making direct land acquisition more expensive and time-consuming. Consequently, many development authorities have shifted toward Town Planning Schemes and land pooling. These mechanisms rely on owner participation and land readjustment, offering a more collaborative and financially feasible alternative for providing urban infrastructure.

91. (A) Revealed preference methodology relies on hypothetical surveys rather than observed behavior.
Revealed preference methods, such as hedonic pricing or the travel cost method, rely on actual behavior observed in real-world markets. In contrast, stated preference methods like contingent valuation use hypothetical surveys to elicit what people say they would be willing to pay. Both are essential for valuing non-market goods, but they differ fundamentally in their source of data and underlying methodology.

92. (C) Mutually Exclusive Projects – Projects where accepting one implies the rejection of the other
Mutually exclusive projects represent a scenario where a decision-maker must choose between competing alternatives because only one can be implemented. For example, a single site could be used for either a park or a parking lot. In contrast, a sunk cost is a past expenditure that cannot be recovered and should not influence future investment decisions regarding a specific project.

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used elsewhere. This effectively monetizes the land's development potential. However, receiving zones are typically designated in areas that have adequate infrastructure to support increased density. Highly congested core areas are generally not ideal receiving zones as they may exacerbate existing infrastructure strain.

77. (D) Enhancing own-source revenue and optimizing collections.
To achieve a high investment-grade credit rating, a municipality must demonstrate fiscal stability and independent financial strength. Enhancing own-source revenues, particularly through efficient property tax and user charge collection, shows potential investors that the local body can reliably service its debt. Relying on discretionary grants or deferring payments signals financial weakness and would likely lead to a lower credit rating.

78. (A) Both A and R are true and R is the correct explanation of A.
Real estate supply is highly inelastic in the short term because construction takes time. When demand surges, prices spike quickly because supply cannot respond immediately. This leads to a boom followed by aggressive building. Once those projects are completed, supply often exceeds demand, causing market corrections and busts. This inherent lag between demand signals and supply delivery creates the industry's cyclical nature.

79. (B) UAM perfectly captures the speculative, high market value of prime vacant land.
The Unit Area Method is praised for being transparent, reducing assessor discretion, and simplifying self-assessment for taxpayers. However, because it is based on fixed zonal rates rather than individual market transactions, it may not accurately reflect the high speculative values of specific prime vacant land parcels. Capturing such market-driven premiums often requires more sophisticated capital value-based assessment systems.

80. (A) 1, 2, 3, 4
Modernization begins with the computerization of textual Record of Rights, followed by the digitization of spatial cadastral maps. These two datasets are then integrated to link ownership details with precise boundaries. Once the database is complete and verified, the final stage is implementing conclusive land titling, where the state provides a legal guarantee for the accuracy and ownership of land titles.

81. (A) Protecting homebuyers by mandating registration and disclosures.
The primary function of the Real Estate Regulatory Authority is to ensure transparency and accountability in the housing market. It mandates the registration of projects and agents, requiring developers to disclose project timelines and financial details. By providing a formal mechanism for grievance redressal and standardizing contract terms, RERA protects the interests of homebuyers and promotes professionalism in the sector.

82. (C) Multilateral external assistance
The European Investment Bank and Asian Development Bank are multilateral financial institutions that provide long-term loans for significant infrastructure projects. These funds are classified as multilateral external assistance. They often come with lower interest rates and technical guidance, supporting large-scale urban investments like metro systems that require substantial capital beyond the immediate capacity of state or municipal budgets alone.

83. (A) Negative externality
A negative externality occurs when an economic activity imposes unintended costs on third parties who are not involved in the transaction. In this case, the noise and air pollution from the industrial park reduce the quality of life and property values for nearby residents. These spillover effects represent a market failure where the social cost of production exceeds the private cost.

84. (D) Cadastral Map – A map showing the distribution of demographic data like literacy rates
A cadastral map is a specialized map that defines the legal boundaries and ownership of individual land parcels. It is used for property taxation and land administration, not for demographic data. Demographic information like literacy rates is typically represented on thematic maps. Other concepts like Floor Area Ratio, land banking, and

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investors with regular returns from stable, long-term infrastructure projects.

68. (D) Balance Sheet – A financial statement showing the assets, liabilities, and equity of a ULB at a specific point in time.
A balance sheet provides a comprehensive snapshot of an Urban Local Body's financial position, detailing its assets, liabilities, and net equity. In contrast, accrual accounting recognizes revenues and expenses when they are earned or incurred, regardless of cash flow timing. Cash basis accounting only records transactions when money changes hands. These reforms are essential for improving municipal financial transparency and management.

69. (A) Both Statement I and Statement II are true.
Speculation often leads to land hoarding, where owners hold parcels idle in anticipation of future price gains, thereby restricting the supply of land for immediate development. This artificial scarcity drives up urban land prices. To counter this, economists recommend a vacant land tax. By penalizing inactivity, the tax encourages owners to either develop their land or sell it to others.

70. (C) Estimating noise reduction value by analyzing housing prices.
The hedonic pricing method is used to value non-market environmental attributes by analyzing how they influence the market price of properties. For example, the economic benefit of noise reduction from a new sound barrier can be estimated by comparing the sale prices of homes in quiet versus noisy areas. This technique isolates the value individuals place on specific environmental or structural characteristics.

71. (D) Creating public infrastructure and selling portions to fund it.
In land readjustment, the planning authority retains a portion of the pooled land for several purposes. Some of this land is used to build essential public infrastructure, such as roads and parks. Other portions may be sold as "amenity plots" to generate the funds needed to finance the development works, ensuring the scheme remains self-financing and avoids high capital outlays.

72. (A) Intangible Cost – Costs that are easily quantifiable in market prices, such as the price of steel and concrete.
Intangible costs refer to impacts that are difficult to quantify in monetary terms, such as loss of aesthetic value or increased stress due to construction noise. They are not easily measured by market prices. In contrast, capital and operating costs involve quantifiable expenditures on materials, labor, and energy. External costs represent negative third-party effects that are not reflected in the project's financial budget.

73. (B) Capturing unearned land value gains from public investment.
Value Capture Financing is based on the principle that public investments in infrastructure, such as new transit lines, create significant increases in nearby land values. Since these gains are unearned by the landowners, the state can capture a portion of this increment through taxes or fees. The recovered funds are then reinvested to pay for the original infrastructure or further urban improvements.

74. (A) P-3, Q-1, R-2, S-4
The income approach values properties based on their potential for generating rental income. The sales comparison method looks at recent transactions of similar properties. The cost approach adds land value to the depreciated cost of replacing existing structures. Contingent valuation relies on willingness-to-pay surveys to value non-market goods. Each method provides a different perspective on the economic value of real estate assets.

75. (A) Property Tax on lands and buildings
Under the Madhya Pradesh Municipal Corporation Act, 1956, property tax is classified as an obligatory tax. This means the corporation is legally required to impose and collect it from all lands and buildings within its jurisdiction. This tax forms the core of the municipality's own-source revenue, enabling it to fund mandatory services such as sanitation, lighting, and road maintenance.

76. (B) 1, 2, and 4 only
Transfer of Development Rights allows landowners to surrender land for public purposes in exchange for certificates that can be sold or

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93. (D) Treating taxes as transfer payments rather than resource costs.
In financial analysis, taxes are a direct cash outflow for the project and a cost to the investor. However, in economic analysis, taxes are viewed as transfer payments from the project to the government. Since they do not represent the consumption of real physical resources by the project, they are excluded when calculating the project's net impact on national welfare.

94. (C) Imposing a blanket freeze on all agricultural land conversions to urban use.
Higher density zoning and inclusionary housing policies help increase the supply of affordable units. Conversely, a blanket freeze on agricultural land conversion severely restricts the availability of new developable land. This artificial scarcity typically drives up the prices of existing urban land, making it even more difficult for low-income residents to access affordable housing options in growing cities.

95. (B) Announcement effect and speculative capitalization.
When a Master Plan is published, it designates future land uses and infrastructure, reducing uncertainty for investors. This often triggers an "announcement effect," where buyers bid up the price of peripheral land in anticipation of its future development potential. This speculative capitalization reflects the market's attempt to capture future unearned increments before the actual physical urbanization of the land occurs.

96. (D) Alfred Marshall – The theory of perfect inelasticity of urban housing demand
Alfred Marshall is famous for his work on agglomeration economies and industrial districts, not for a theory of perfect inelasticity of housing demand. David Ricardo explored land rent based on quality, while von Thünen focused on transport-driven rent in an isolated state. William Alonso adapted these models to the urban context with his bid-rent function for diverse land uses.

97. (A) Ensuring every transaction affects at least two accounts.
A double-entry accounting system follows the fundamental principle that every financial transaction has equal and opposite effects in at least two different accounts. This ensures that the accounting equation (assets equal liabilities plus equity) remains balanced. For Urban Local Bodies, this system provides a more accurate and transparent record of finances, making it easier to track debts, assets, and overall fiscal health.

98. (A) P-4, Q-3, R-1, S-2
HUDCO provides essential financing for public housing and urban infrastructure in India. The National Housing Bank acts as the apex regulator and financier for housing finance companies. JICA offers significant bilateral assistance for major projects like metros. CRISIL is a leading credit rating agency that assesses the financial health of municipal bodies, helping them access capital through bond markets.

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99. (A) Constructing amenities on-site in exchange for FAR elsewhere.
Under the accommodation reservation concept, a landowner can develop a public amenity on their land and hand it over to the local authority. In return, they receive additional Floor Area Ratio that can be used on the remaining portion of their property or transferred elsewhere. This mechanism allows authorities to provide essential services without the high costs of land acquisition.

100. (B) 2, 3, and 4 only
Farebox revenues in Indian mass transit projects are rarely sufficient to cover both operational expenses and capital recovery. Consequently, financial sustainability depends heavily on non-farebox revenues like advertising and station property development, alongside land value capture tools like premium FAR. Additionally, government subsidies are often necessary to keep fares low enough to remain accessible to the general urban population.

101. (B) The BCR will decrease as future benefits are discounted more.
The Benefit-Cost Ratio is calculated by dividing the present value of benefits by the present value of costs. A higher discount rate reduces the present value of all future cash flows. Since benefits typically occur further in the future than initial capital costs, an increased discount rate reduces the present value of benefits more sharply, leading to a lower overall BCR.

18. Match the Smart City project selection strategies in List I with their key characteristics in List II:
List I: (Selection Strategies)
P. Retrofitting
Q. Redevelopment
R. Greenfield development
S. Pan-city development
List II: (Characteristics)
1. Replacement of existing built environment with enhanced infrastructure and higher FSI.
2. Application of Smart Solutions to the existing city-wide infrastructure.
3. Development of a previously vacant area using innovative planning tools.
4. Upgrading existing infrastructure in an already built-up area without major demolition.

(A) P-4, Q-1, R-3, S-2
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-1, R-4, S-2

19. In conducting a gap analysis for a tier-2 city's water supply, a planner observes that the current supply is 80 LPCD against a normative standard of 135 LPCD, with Non-Revenue Water (NRW) at 45%. What project should be prioritised based on this assessment?
(A) Augmenting water source capacity and undertaking leakage reduction and metering.
(B) Expanding the city limits to bring new tax-paying areas under municipal jurisdiction.
(C) Initiating a purely cosmetic urban streetscape project to attract private investments.
(D) Reducing the normative service level benchmark to 80 LPCD to declare the city fully compliant.

20. When applying a multi-criteria project prioritisation matrix, how does a planner conceptually ensure that critical public health projects outrank aesthetic improvements?
(A) By completely eliminating qualitative criteria from the matrix to focus on purely numerical data.
(B) By relying solely on the Net Present Value (NPV) calculated over a very long 50-year horizon.
(C) By assigning higher weightages to indicators like morbidity reduction and essential service gaps.
(D) By letting the local real estate developers vote on the matrix parameters for market feasibility.

21. Consider the following elements regarding the preparation of a comprehensive City Investment Plan (CIP):
1. Current infrastructure baseline and service level gaps.
2. Financial operating plan of the municipal body.
3. Sector-wise capital investment requirements.
4. Detailed structural engineering drawings for every identified asset.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

22. Which of the following is NOT a standard criterion considered when calculating the 'feasibility score' of an urban infrastructure project during prioritisation?
(A) Availability of unencumbered land for the project footprint.
(B) Regulatory approvals and environmental clearance requirements.
(C) Financial capacity of the implementing agency to bear capital and O&M costs.
(D) The aesthetic preference of the external international consultant.

23. Identify the INCORRECT pair regarding urban infrastructure benchmarks in India:
(A) Water Supply – 135 LPCD for municipal corporations with sewerage systems.
(B) Non-Revenue Water (NRW) – Target of 0% as per SLB guidelines.
(C) Solid Waste Management – 100% collection efficiency.
(D) Sewerage Network – 100% adequacy of treatment capacity.

24. A town planner is drafting a project identification report for the city of Jabalpur under the Smart Cities Mission. To align with the guidelines,

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111. (B) Indore
Indore Municipal Corporation was a pioneer in Madhya Pradesh by successfully issuing and listing municipal bonds on the National Stock Exchange. These funds were specifically raised to finance critical infrastructure projects under the Smart Cities Mission and AMRUT. This successful issuance demonstrated the city's strong creditworthiness and its ability to access alternative capital markets for urban development and modernization.

112. (B) 1, 2, and 4 only
The Real Estate (Regulation and Development) Act is designed to enhance transparency and protect consumers by mandating the registration of projects and agents. It requires developers to deposit seventy percent of funds into escrow accounts to ensure project completion. However, RERA applies to both residential and commercial real estate, aiming to professionalize the entire sector and reduce risks for all buyers.

113. (A) Travel Cost Method
The travel cost method is a revealed preference technique that estimates the economic value of recreational or environmental sites based on the expenses visitors incur to reach them. By analyzing the time and money people spend on travel, researchers can derive a demand curve for the site. This helps in quantifying the benefits of preserving unique natural areas like wetlands.

114. (A) Both A and R are true and R is the correct explanation of A.
Net Present Value is generally preferred for project selection because it provides a clear monetary measure of total wealth addition to society. The Internal Rate of Return is a percentage that can be misleading when comparing projects of different sizes or durations. While IRR is a useful indicator of profitability, NPV directly reflects the scale of the net benefit.

115. (A) They are purely voluntary contributions made by developers to local NGOs.
Development charges are mandatory fees levied by local authorities on developers seeking planning permission for new projects. These charges are intended to help cover the costs of expanding the city's trunk infrastructure, such as major roads and water lines. They are not voluntary donations. The rates are usually calculated based on standardized formulas considering the plot size, usage, and built-up area.

116. (D) Sensitivity Analysis – Testing project viability under various adverse scenarios.
Sensitivity analysis is a critical step in project appraisal, used to determine how changes in key variables—like increased costs or decreased demand—affect the project's overall viability. This helps decision-makers understand the risks and robustness of a project. In contrast, discounting is the process of reducing future values to their present worth to account for the time value of money.

117. (D) Statement I is false but Statement II is true.
Urban Local Bodies are encouraged to develop their own-source revenues rather than relying solely on state grants. A higher proportion of internally generated revenue, such as property taxes and user charges, indicates greater financial autonomy and stability. This fiscal strength is a key factor evaluated by credit rating agencies, as it demonstrates a municipality's ability to independently meet its obligations.

118. (C) It legally extinguishes all pre-existing traditional tribal land rights without any requirement for compensation.
Digitizing and integrating land records improves transparency, reduces boundary disputes, and assists in efficient tax collection and acquisition processes. However, modernization of records does not legally eliminate existing land rights or bypass constitutional protections and compensation requirements. The goal of these digital systems is to clarify and secure property rights for all stakeholders, rather than to extinguish them without due process.

119. (D) Liability will increase as it is taxed on market capital value.
Under the annual rental value system, vacant plots often pay very low taxes because they generate no current rent. Shifting to a capital value system bases the tax on the actual market value of the land itself. Since prime commercial land has a high market price regardless of current use, the tax liability for such a plot will significantly increase.

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Q. Impact
R. Feasibility
S. Readiness

List II: (Descriptions)

1. The extent to which the project addresses an immediate public health or safety risk.
2. The scale of socio-economic and environmental benefits generated upon completion.
3. The technical, financial, and institutional viability of executing the project.
4. The availability of land, NOCs, and completed preliminary surveys.

(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-3, Q-4, R-1, S-2
(D) P-1, Q-3, R-2, S-4

7. When a Town Planner is tasked with selecting an Area Based Development (ABD) project under the Smart Cities Mission, which competency is most critical during the initial spatial targeting phase?

(A) Applying pan-city ICT solutions to universally upgrade tax collection systems across the entire municipal limit.
(B) Delineating a specific area to maximize the impact of comprehensive infrastructure retrofitting.
(C) Structuring a toll-operate-transfer concession agreement for an existing highway located outside the city.
(D) Preparing a macroeconomic policy framework for national municipal bond issuances and market debt.

8. During the capital investment planning process, a municipality has limited funds and must choose between upgrading a dilapidated trunk sewer and building a new smart transport hub. Applying the concept of alignment with the master plan, what is the most appropriate approach?

(A) Select the project that generates the highest immediate toll revenue, irrespective of long-term spatial strategy.
(B) Defer both projects until full funding is secured through a complex international loan or sovereign grant.
(C) Select the project supporting demographic distribution and land-use proposals specified in the development plan.
(D) Implement the transport hub because it guarantees a higher visual political impact for the local administration.

9. Consider the following statements regarding stakeholder prioritisation processes in urban project planning:

1. It involves identifying individuals or groups who can affect or are affected by the project.
2. High-power, high-interest stakeholders must be managed closely and engaged actively throughout the project lifecycle.
3. Low-power, low-interest stakeholders should dominate the decision-making process to ensure equity.
4. It helps in mitigating social resistance and enhancing community ownership.

Which of the above statements are correct?

(A) 1, 2, and 3 only
(B) 1, 2, and 4 only
(C) 2, 3, and 4 only
(D) 1, 3, and 4 only

10. What is the most appropriate rationale for sector-wise investment sequencing in a City Investment Plan (CIP)?

(A) It prevents construction overlaps and aligns expenditure with the municipal borrowing capacity.
(B) It ensures that complex technological projects are always built before foundational health infrastructure.
(C) It allows the Urban Local Body to exhaust its entire capital budget in the first year of the planning horizon.
(D) It restricts private sector participation strictly to the final phases of large-scale urban development.

11. Identify the correct pair regarding urban project identification frameworks:

(A) Service Level Benchmarks (SLB) – Exclusively measures the profitability of private commercial real estate assets.
(B) Gap Analysis – Comparing infrastructural deficits against normative standards to identify future needs.
(C) Pan-City Smart Solutions – Focuses on rehabilitating slums in one specific municipal ward or housing block.

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CHAPTER 19
Project Planning and Appraisal

1. Which of the following best defines the primary objective of a needs assessment for urban projects?
(A) To evaluate the final environmental impact of a completed project.
(B) To identify the gap between existing infrastructure conditions and desired service standards.
(C) To calculate the internal rate of return for private investors before drafting the concession agreement.
(D) To bypass stakeholder consultation by relying solely on satellite imagery for site selection.

2. Under the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh, the identification of urban projects primarily relies on which of the following mechanisms?
(A) Direct allocation by international funding agencies.
(B) Mandatory real estate investment trusts established by private developers.
(C) Randomised selection of contiguous wards in major municipal corporations.
(D) Service level benchmarking gaps identified by Urban Local Bodies (ULBs).

3. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): In the preparation of a City Investment Plan (CIP), projects addressing core Service Level Benchmark (SLB) gaps in water supply and sanitation are often prioritized over recreational infrastructure.
Reason (R): AMRUT guidelines mandate that universal coverage of water supply and sewerage must be achieved before funding is allocated to parks and green spaces.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

4. Consider the following statements regarding the multi-criteria project prioritisation matrix:
Statement I: The matrix exclusively evaluates projects based on their financial return on investment (ROI) to ensure municipal revenue generation.
Statement II: Criteria such as social impact, environmental sustainability, and technical feasibility are assigned weightages to rank competing urban projects.
(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

5. Which of the following is an INCORRECT statement regarding the PM Gati Shakti National Master Plan in the context of project identification?
(A) It eliminates the need for environmental clearances for all urban transport projects.
(B) It provides a GIS-based platform for integrated planning and synchronized implementation of infrastructure projects.
(C) It aims to break departmental silos by enabling multi-modal connectivity planning.
(D) It helps in identifying critical infrastructure gaps to improve logistics efficiency.

6. Match the project scoring parameters in List I with their descriptions in List II:
List I: (Scoring Parameters)
P. Urgency

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120. (A) Elasticity of Land Supply – A condition where urban land supply changes drastically with small price changes.

Urban land supply is generally considered inelastic, meaning it does not change significantly even with substantial price fluctuations. This is due to the physical finiteness of land and regulatory constraints. Describing land supply as highly elastic is incorrect. In contrast, the land value gradient, monocentric models, and subsidized user charges are fundamental concepts that correctly describe spatial and fiscal patterns.

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(D) Area Based Development (ABD) – Implements city-wide e-governance portals and electronic administrative tools.

12. Arrange the following steps of the Capital Investment Planning process in the correct chronological order:
1. Identification of service level gaps and future needs.
2. Financial capacity assessment of the Urban Local Body.
3. Prioritisation of projects using a multi-criteria matrix.
4. Preparation of the multi-year capital investment layout.

(A) 1, 3, 2, 4
(B) 2, 1, 3, 4
(C) 1, 2, 3, 4
(D) 3, 1, 4, 2

13. Which of the following is typically the ultimate output of a capital investment planning process at the municipal level?
(A) A multi-year schedule of prioritized projects linked to identified funding sources.
(B) A comprehensive daily operations manual for a water treatment plant and its staff.
(C) A legally binding zoning regulation map detailing building heights and setbacks citywide.
(D) An environmental clearance certificate for a specific road widening project in a local area.

14. The Madhya Pradesh Urban Development Company (MPUDC) often prioritizes projects that address gaps in which of the following fundamental urban services across municipal councils?
(A) Metro rail network expansions in Tier-III cities with low population density.
(B) Construction of international airports in tribal districts to boost global tourism.
(C) Universal piped water supply and underground sewerage networks.
(D) Development of dedicated freight corridors to support heavy industrial logistics.

15. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): In the Smart City Mission project selection, Pan-City proposals are designed to have a smaller, more concentrated physical footprint compared to Area Based Development (ABD) proposals.
Reason (R): Pan-City initiatives typically leverage technology and data to improve urban services across the entire municipal area simultaneously.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

16. Consider the following statements regarding the alignment of project identification with the City Development Plan (CDP):
Statement I: A project identified in isolation, without reference to the CDP, often fails to integrate with the long-term spatial and socio-economic strategy of the city.
Statement II: The CDP provides the macro-level vision from which specific capital projects are derived and prioritized.
(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

17. Which of the following statements correctly describes a feature of the AMRUT project identification process?
(A) It places the highest priority on creating new greenfield smart cities rather than brownfield infrastructure upgrades.
(B) It mandates bottom-up project selection, starting with citizen surveys and the State Annual Action Plan.
(C) It bypasses state governments, allowing the Central Government to directly identify and execute projects in local wards.
(D) It relies exclusively on private sector proposals to identify urban water supply needs and distribution networks.

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pollution during construction.
4. Demographic trends, existing infrastructure deficit, and alignment with the Master Plan.

(A) P-4, Q-1, R-3, S-2
(B) P-1, Q-4, R-2, S-3
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-1, R-4, S-2

31. As a project manager finalizing a DPR for a complex solid waste to energy plant, you must select an appropriate procurement plan. Which competency ensures the strategy aligns with the project's technical complexity?
(A) Opting for a standard Item-Rate contract to minimize initial documentation and paperwork.
(B) Utilizing a cost-plus-percentage contract to ensure the contractor has no financial risk.
(C) Breaking the project into hundreds of micro-contracts to engage local unorganized labor directly.
(D) Selecting an EPC model or PPP to transfer design and performance risks to private entities.

32. In the economic analysis of an urban infrastructure DPR, how is the Benefit-Cost Ratio (BCR) conceptually applied to justify public investments?
(A) It divides the private contractor's profit by the municipal equity contribution.
(B) It measures the ratio of concrete required to the steel required in the design.
(C) It compares the value of socio-economic benefits against the total project economic costs.
(D) It determines the months required to recover capital costs from direct user charges.

33. Consider the following items regarding the formulation of the O&M (Operations and Maintenance) cost projections within a DPR:
1. Energy and power consumption costs.
2. Routine repair and preventive maintenance of electromechanical equipment.
3. Salary and wages of operational staff.
4. The sunk costs incurred during the pre-feasibility study.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

34. What is the most appropriate reason for conducting rigorous structural and technical specifications detailing in a DPR rather than relying on rough estimates?
(A) To deliberately inflate the project cost to secure larger central grants from the government.
(B) To delay the project implementation process to align with upcoming municipal electoral cycles.
(C) To provide detailed academic material for structural engineering students at local universities.
(D) To ensure safety and accurate costing, thereby minimizing variation orders during construction.

35. Identify the correct pair regarding the engineering design phase of DPR preparation:
(A) Topographical Survey – Mapping contours, elevations, and physical features of the project site.
(B) Geotechnical Investigation – Counting the number of vehicles passing an urban intersection.
(C) Hydrological Study – Analyzing the financial internal rate of return of the planned project.
(D) Rate Analysis – Determining the specific load-bearing capacity of the soil at the site.

36. Arrange the following stages of preparing a Detailed Project Report (DPR) in the typical chronological order:
1. Need assessment and project justification.
2. Detailed engineering surveys and investigations.
3. Preparation of Bill of Quantities (BOQ) and cost estimates.
4. Financial and economic analysis.

Which of the above is the correct sequence?
(A) 2, 1, 3, 4
(B) 1, 2, 3, 4
(C) 1, 3, 2, 4
(D) 2, 3, 1, 4

37. What specific function does a 'Gantt chart' serve in the implementation schedule of a DPR?

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how should the planner structure the project selection?
(A) Propose projects exclusively for the rural hinterland located far outside the city limits.
(B) Suggest the relocation of all commercial activities to a greenfield site outside the city.
(C) Focus on a combination of a localized ABD area and an IT-based Pan-City solution.
(D) Prioritize the construction of a state legislative assembly building in the city center.

25. What is the fundamental definition of a Detailed Project Report (DPR) in urban planning?
(A) A preliminary conceptual sketch used to secure initial political approval.
(B) A post-construction audit report detailing actual expenditure against the budget.
(C) A theoretical academic study on the socio-economic history of a neighborhood.
(D) A comprehensive blueprint providing engineering, financial, and institutional data for execution.

26. In the context of preparing the Detailed Project Report (DPR) for a major urban transit project like the Indore BRTS, which component must definitively precede the finalization of the structural and technical specifications?
(A) Engineering surveys, geotechnical investigations, and traffic demand modeling.
(B) The formulation of the final toll plaza staffing roster for future operations.
(C) The public inauguration ceremony of the transit corridor and cultural event.
(D) The calculation of the contractor's corporate income tax for the next decade.

27. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): In the financial analysis section of a DPR, a project is generally considered financially viable if its Net Present Value (NPV) is positive at the designated discount rate.
Reason (R): A positive NPV indicates that the present value of projected cash inflows exceeds the present value of anticipated cash outflows over the project's life.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

28. Consider the following statements regarding the estimation of project costs in a DPR:
Statement I: The Bill of Quantities (BOQ) is derived directly from the detailed engineering drawings and specifications.
Statement II: Rate analysis for the BOQ items is usually based on the prevailing Schedule of Rates (SOR) approved by the State Government or standard market rates.
(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

29. Which of the following statements is INCORRECT regarding the implementation schedule component of a DPR?
(A) It ensures the project will be completed without time overruns despite external factors.
(B) It typically utilizes tools such as Gantt charts or PERT/CPM networks for scheduling.
(C) It sets physical and financial milestones to track project progress throughout construction.
(D) It outlines the sequence of construction activities and their specific interdependencies.

30. Match the essential components of a DPR in List I with their specific contents in List II:
List I: (DPR Components)
P. Project Context
Q. O&M Plan
R. Environmental Assessment
S. Annexures
List II: (Contents)
1. Strategies for routine maintenance, staffing, and long-term cost recovery.
2. Topographical maps, land ownership records, and statutory NOCs.
3. Mitigation measures for air, noise, and water

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102. (A) Both A and R are true and R is the correct explanation of A.
Cost-Benefit Analysis focuses on actual resource flows when they occur. Therefore, the entire capital expenditure is recorded at the time of investment. Depreciation is a non-cash accounting allocation of that original cost over time. Including it in a CBA would result in double-counting the initial capital cost, which would distort the project's economic and financial evaluation results.

103. (C) Statement I is false but Statement II is true.
Rising land prices generally make housing less affordable, particularly for low-income groups, by increasing the cost of development. Speculative land hoarding further exacerbates this problem by restricting the supply of land available for housing, driving prices even higher. Policies that address land supply and discourage hoarding are essential for maintaining affordability in rapidly growing urban housing markets across India.

104. (A) 2, 1, 3, 4
A Town Planning Scheme begins with a formal declaration of intention by the local authority. This is followed by the preparation and publication of a draft scheme outlining the proposed layout and infrastructure. Subsequently, individual plots are reconstituted, and betterment contributions or compensations are calculated. The process concludes with the final sanction by the State Government and the implementation phase.

105. (B) Subsuming local taxes made ULBs dependent on state grants.
The implementation of GST subsumed several significant local taxes, such as octroi and entry tax, which were major sources of revenue for many Urban Local Bodies. This change reduced the independent taxing powers of municipalities, making them more reliant on intergovernmental transfers and state-level grants. While it simplified the overall tax structure, it created new financial challenges for municipal autonomy.

106. (B) Levying a user charge proportional to the volume of waste.
To ensure the long-term sustainability of solid waste services, Urban Local Bodies should implement user charges based on the quantity or type of waste generated. This creates a direct link between the service provided and the revenue collected, allowing the municipality to cover its operation and maintenance costs. Proportional charging also incentivizes waste reduction and improves overall service efficiency.

107. (A) Land Value Capture of unearned increments
A betterment levy is a classic example of land value capture. It is based on the idea that landowners adjacent to new infrastructure, like a widened road, experience a significant increase in property value that they did not directly create. By taxing a portion of this "unearned increment," the state can recover funds to help pay for the public improvement.

108. (C) External Commercial Borrowings – Domestic loans raised from local cooperative banks in INR
External Commercial Borrowings are loans raised by domestic entities from non-resident or international lenders in foreign currency. They are not domestic loans from local cooperative banks. Other mechanisms like bank loans, Finance Commission grants, and Investment Trusts are correctly matched to their functions as sources of capital for urban infrastructure and development projects within the national financial framework.

109. (D) Adjusting market prices to reflect true economic opportunity cost.
Shadow pricing is an analytical technique used in economic evaluations to adjust observed market prices. It aims to correct distortions caused by taxes, subsidies, or imperfect competition, ensuring that the prices used reflect the actual cost of resources to society. This approach provides a more accurate measure of a project's net impact on national economic welfare than using market prices.

110. (A) P-2, Q-3, R-1, S-4
Basic grants are untied and can be used for general municipal needs. Tied grants are earmarked for specific national priorities like sanitation and water. Performance grants are awarded to municipalities that meet specific targets in auditing and revenue collection. State Finance Commission grants represent the devolution of state-level taxes to local bodies as recommended by the respective state-level commissions.

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(A) It represents the project schedule, showing start and finish dates of work breakdown elements.
(B) It illustrates the cross-sectional structural details of the foundation for engineering review.
(C) It calculates the break-even point for the project's financial returns over its lifecycle.
(D) It maps the underground utility network of the city for future maintenance planning.

38. In Madhya Pradesh, when calculating the cost estimation for civil works in a municipal DPR, planners fundamentally rely on which of the following standard documents?
(A) The Bombay Stock Exchange real estate index for high-end commercial properties.
(B) The global average cost of construction published annually by the World Bank.
(C) Historical costs of similar projects built in the 1990s without adjusting for inflation.
(D) The MP PWD Schedule of Rates (SOR) or Urban Administration and Development (UAD) SOR.

39. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): The Internal Rate of Return (IRR) is a critical metric in the financial analysis of revenue-generating urban projects.
Reason (R): The IRR represents the discount rate at which the Net Present Value (NPV) of a project's cash flows becomes exactly zero.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

40. Consider the following statements regarding the 'Need and Justification' section of a DPR:
Statement I: This section articulates the existing infrastructure deficits and the anticipated demographic demand the project intends to meet.
Statement II: It relies heavily on empirical data, service level benchmark gaps, and alignment with statutory master plans to validate the investment.
(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

41. Which of the following statements correctly identifies the purpose of an Environmental and Social Assessment Summary in a DPR?
(A) To replace the need for acquiring mandatory environmental clearances from the Ministry.
(B) To legally bind the local community to provide free labor for construction activities.
(C) To evaluate the political affiliations of the project stakeholders and local leaders.
(D) To identify potential impacts and propose adequate mitigation measures and management plans.

42. Match the financial metrics used in DPR preparation in List I with their corresponding definitions in List II:
List I: (Financial Metrics)
P. Net Present Value (NPV)
Q. Internal Rate of Return (IRR)
R. Benefit-Cost Ratio (BCR)
S. Payback Period
List II: (Definitions)
1. The time required to recover the initial capital investment from net cash flows.
2. The present value of benefits divided by the present value of costs.
3. The sum of the present values of incoming and outgoing cash flows over a period.
4. The annualized effective compounded return rate that makes the NPV of all cash flows equal to zero.
(A) P-3, Q-4, R-2, S-1
(B) P-4, Q-3, R-1, S-2
(C) P-3, Q-1, R-2, S-4
(D) P-2, Q-4, R-3, S-1

43. A planner is evaluating a proposed solid waste management facility. The present value of all capital and operational costs is ₹50 Crores. The present value of user charges, energy sales, and quantifiable environmental health benefits is

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contracts.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

82. Based on the analysis of global PPP failure cases, what is the most appropriate reason for the premature termination or renegotiation of urban water supply PPPs?
(A) Overestimation of the private partner's ability to upgrade old networks.
(B) Lack of political will for cost-reflective charges and public resistance to privatization.
(C) Technical and socio-political risk mismanagement combined with cost factors.
(D) The failure of the private partner to issue initial public offerings (IPOs) on the market.

83. Identify the correct pair representing a standard PPP application in urban infrastructure:
(A) Solid Waste Management – Collection and processing via DBFOT contracts.
(B) Primary Education – Construction and syllabus drafting strictly through a BOO model.
(C) Urban Master Planning – Delegation of statutory power to notify land use changes citywide.
(D) Police and Law Enforcement – Outsourcing core public safety functions on a BOT Toll basis.

84. Arrange the typical stages of procuring a PPP project in the correct chronological order:
1. Issue of Request for Proposal (RFP) to shortlisted bidders.
2. Signing of the Concession Agreement.
3. In-principle approval and issue of Request for Qualification (RFQ).
4. Evaluation of financial bids and selection of the preferred bidder.

(A) 3, 1, 4, 2
(B) 1, 3, 4, 2
(C) 3, 4, 1, 2
(D) 1, 4, 3, 2

85. In the context of infrastructure finance, what does the acronym HAM stand for?
(A) Hybrid Annuity Model
(B) High Asset Monetization
(C) Heavy Amortization Mechanism
(D) Habitat and Mobility

86. Which nodal agency under the Finance Department of the Government of Madhya Pradesh plays a crucial role in evaluating and clearing state PPP projects?
(A) Directorate of Archaeology, Archives and Museums for heritage site protection.
(B) MP State Agro Industries Development Corporation for agricultural modernization.
(C) Board of Secondary Education, MP for coordinating student academic curricula.
(D) MP Public Asset Management Department or Infrastructure Investment Fund Board.

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87. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): Infrastructure Investment Trusts (InvITs) are highly suitable for greenfield urban infrastructure projects facing significant land acquisition delays.
Reason (R): InvITs are designed to manage long-term capital by absorbing high construction and development risks before revenue generation begins.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) Both A and R are false.

88. Consider the following statements regarding BOO (Build-Own-Operate) and BOOT (Build-Own-Operate-Transfer) models:
Statement I: In a BOO model, the private entity retains ownership of the facility in perpetuity and is not required to transfer it back to the public authority.
Statement II: In a BOOT model, the facility must be transferred back to the public authority at the end of the concession period, usually at no cost or a pre-determined residual value.
(A) Statement I is correct and Statement II is incorrect.

treaties.
(D) The TCP Directorate or the UDHD Technical Committee for state appraisal.

51. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): A public transit project may possess a high Economic Internal Rate of Return (EIRR) even if its Financial Internal Rate of Return (FIRR) is low or negative.
Reason (R): Economic feasibility accounts for positive externalities such as reduced travel time, lower emissions, and fewer accidents, which do not translate directly into financial revenue for the transit operator.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

52. Consider the following statements regarding Government of India (GoI) project appraisal processes:
Statement I: The Expenditure Finance Committee (EFC) appraises projects and schemes of the Central Government whose costs exceed specific high-value thresholds.
Statement II: The Cabinet Committee on Economic Affairs (CCEA) provides the final approval for ultra-mega projects appraised by the EFC.
(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

53. Which of the following statements is INCORRECT regarding the assessment of 'Bankability' during project appraisal?
(A) Socially desirable projects without revenue or guarantees are considered highly bankable.
(B) Bankability implies that a project has a robust revenue model to service its debt obligations.
(C) Lenders assess bankability by analyzing the Debt Service Coverage Ratio (DSCR).
(D) Bankability depends on appropriate risk allocation and the creditworthiness of the implementing agency.

54. Match the type of feasibility in List I with its primary focus area in List II:
List I: (Types of Feasibility)
P. Technical Feasibility
Q. Financial Feasibility
R. Environmental Feasibility
S. Institutional Feasibility
List II: (Focus Areas)
1. Evaluating the capacity of the executing agency to implement and manage the project.
2. Assessing design standards, technology options, and constructability.
3. Reviewing the Environmental Impact Assessment (EIA) and mitigation plans.
4. Analyzing capital costs, revenue streams, and return on investment.
(A) P-2, Q-4, R-3, S-1
(B) P-4, Q-2, R-1, S-3
(C) P-2, Q-3, R-4, S-1
(D) P-1, Q-4, R-3, S-2

55. An appraisal committee notes that a municipal corporation proposes to build a state-of-the-art desalination plant but lacks engineers trained in membrane technology. Which specific aspect of feasibility is fundamentally lacking and requires a capacity-building plan?
(A) Economic Feasibility
(B) Institutional Feasibility
(C) Political Feasibility
(D) Topographical Feasibility

56. What is the most severe conceptual implication of significant 'time overruns' on the financial viability of an infrastructure project?
(A) Time overruns typically lead to a reduction in the total interest paid during construction (IDC).
(B) Time overruns automatically extend the concession period in all PPP contracts, neutralizing any impact.
(C) Overruns compound CAPEX through inflation and interest, severely lowering the

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proceed.

69. Consider the following circumstances regarding the formulation and approval of a Revised Cost Estimate (RCE) for a government infrastructure project:
1. Abnormal escalation in the prices of raw materials like steel and cement.
2. Major alterations in the project scope or technical specifications due to unforeseen site conditions.
3. Delays in land acquisition leading to extended overheads and Interest During Construction (IDC).
4. The appointment of a new municipal commissioner.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

70. Which of the following is NOT typically evaluated under the 'Institutional Feasibility' of a project?
(A) The legal mandate and statutory powers of the executing agency.
(B) The availability of skilled technical personnel to operate the facility.
(C) The inter-departmental coordination mechanisms for obtaining timely clearances.
(D) The geological fault lines underlying the project site.

71. Identify the INCORRECT pair regarding appraisal parameters and their metrics:
(A) Financial Viability – Net Present Value (NPV).
(B) Environmental Feasibility – Debt Service Coverage Ratio (DSCR).
(C) Economic Viability – Economic Internal Rate of Return (EIRR).
(D) Technical Feasibility – Compliance with BIS codes and design standards.

72. While appraising an AMRUT water supply project DPR for Ujjain city, a state technical committee notices a major discrepancy in the source sustainability data. As a planner, what is the most competent recommendation?
(A) Approve the DPR immediately to meet the financial year-end expenditure targets.
(B) Change the scope of the project from water supply to road construction secretly.
(C) Mandate a detailed hydrological yield study of the proposed surface water source.
(D) Assume the data is correct and advise the contractor to manage water scarcity issues.

73. What is the core economic rationale for adopting a Public-Private Partnership (PPP) model in urban infrastructure?
(A) To completely abdicate government responsibility for public service delivery citywide.
(B) To bypass all environmental and labor regulations that apply to public sector projects.
(C) To ensure that infrastructure services are provided entirely free of cost to all citizens.
(D) To leverage private sector efficiencies while transferring risks to the best-equipped party.

74. The Bhopal Public Bike Sharing system and Indore's automated multi-level parking facilities are prominent examples of which implementation strategy promoted under the Smart Cities Mission in Madhya Pradesh?
(A) Public-Private Partnership (PPP).
(B) Fully Government Funded Departmental Execution.
(C) Direct foreign administration by the World Bank.
(D) Philanthropic donation without formal contracts.

75. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): In a BOT (Toll) model for highway infrastructure, the private concessionaire assumes the traffic volume risk.
Reason (R): The concessionaire recovers its investment solely through fixed annuity payments made by the government, regardless of the number of vehicles using the road.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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63. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): A Social Impact Assessment (SIA) is crucial for securing community acceptance of a large-scale urban infrastructure project.
Reason (R): The SIA identifies potential adverse effects such as displacement and loss of livelihood, enabling planners to formulate fair Rehabilitation and Resettlement (R&R) plans.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

64. Consider the following statements regarding externalities in economic feasibility:
Statement I: Positive externalities are collateral benefits generated by a project, such as increased surrounding land values due to a new metro line, which are included in the economic analysis.
Statement II: Negative externalities, such as increased traffic congestion and noise pollution during operation, are excluded entirely from the economic cost-benefit analysis.
(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

65. Which of the following correctly describes a requirement under the Asian Development Bank (ADB) project appraisal methodology?
(A) ADB requires projects to achieve financial closure solely through domestic retail investors.
(B) ADB mandates compliance with its Safeguard Policy Statement on environment and resettlement.
(C) ADB prohibits the inclusion of capacity-building components in urban infrastructure loans.
(D) ADB dictates that project timelines must not exceed 12 months, regardless of project scale.

66. Match the types of project implications in List I with their definitions or consequences in List II:
List I: (Types of Implications)
P. Cost Overrun
Q. Time Overrun
R. Scope Creep
S. Revised Cost Estimate (RCE)
List II: (Definitions)
1. A formal process required when project expenditure exceeds the originally approved budget by a specified threshold.
2. The continuous or uncontrolled growth in a project's requirements post-approval.
3. Actual expenses exceeding the budgeted capital cost due to inflation or design changes.
4. Delay in project completion beyond the scheduled milestone dates.
(A) P-3, Q-4, R-2, S-1
(B) P-4, Q-3, R-1, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-3, S-1

67. A town planner is evaluating the technical feasibility of a proposed municipal solid waste incineration plant. Which of the following factors is most critical for establishing its technical viability?
(A) The calorific value and moisture content of the municipal solid waste generated in the city.
(B) The aesthetic design and architectural motifs of the plant's main administrative office.
(C) The political affiliation and historical voting patterns of the municipal council members.
(D) The current market price of real estate and commercial land near the proposed site.

68. What is a primary conceptual limitation of a pre-feasibility study?
(A) It provides overly detailed structural drawings that are difficult for non-engineers to read.
(B) It takes longer to complete than the actual construction of the physical infrastructure project.
(C) It relies on secondary data and thumb-rule estimates, carrying a higher margin of error.
(D) It requires mandatory approval from the United Nations before any local work can

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project IRR.

(D) Time overruns increase the economic benefits because the surrounding population grows during the delay.

57. Consider the following key components of the project appraisal methodology typically employed by multilateral funding agencies like the World Bank or ADB:

1. Stringent assessment of environmental and social safeguards (e.g., Resettlement Action Plans).
2. Evaluation of procurement plans against international competitive bidding norms.
3. Detailed economic and financial viability modeling.
4. Ensuring the project directly funds local political campaigns.

Which of the above statement(s) is/are correct?

(A) 1, 2, and 3 only
(B) 2, 3, and 4 only
(C) 1, 3, and 4 only
(D) 1, 2, 3, and 4

58. What is the most appropriate primary objective of a State-level Project Appraisal Committee (e.g., SLTC or SHPSC) under centrally sponsored schemes like AMRUT?

(A) To ensure technical soundness and mission compliance before approving state funding allocation.
(B) To personally supervise the daily pouring of concrete and labor attendance at project sites.
(C) To draft the initial architectural sketches and interior design motifs for urban projects.
(D) To negotiate international treaties for importing essential construction materials and heavy machinery.

59. Identify the correct pair regarding project assessment methodologies:

(A) EIA (Environmental Impact Assessment) – Evaluates the profitability for private shareholders.
(B) SIA – Evaluating consequences on local communities, including displacement and livelihood impacts.
(C) IRR (Internal Rate of Return) – Measures the concentration of air pollutants around the site.
(D) NPV (Net Present Value) – Assesses the institutional capacity and manpower of the local body.

60. Arrange the following stages of high-value central government project appraisal and approval in chronological order:

1. Formulation of the proposal and pre-feasibility study by the Line Ministry.
2. Inter-ministerial consultations and preparation of the EFC Memo.
3. Appraisal by the Expenditure Finance Committee (EFC).
4. Final approval by the Cabinet Committee on Economic Affairs (CCEA).

(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 3, 1, 2, 4

61. How is the term 'Bankability' defined in the context of project finance?

(A) Lenders' willingness to finance based on risk profile, assured cash flows, and legal structure.
(B) The physical proximity of the project site to a nationalized bank branch or financial hub.
(C) The process of depositing municipal tax collections into an interest-bearing escrow account.
(D) The mandate that all project contractors must hold a bank guarantee for 100% of the cost.

62. In the institutional framework of Madhya Pradesh, which committee typically accords the final state-level administrative approval for major urban projects under schemes like Smart Cities and AMRUT?

(A) The Ward Committee of the respective ULB representing local neighborhood interests.
(B) The District Planning Committee (DPC) focusing on rural-urban regional integration.
(C) The State High Powered Steering Committee (SHPSC) headed by the Chief Secretary.
(D) The State Level Sanctioning and Monitoring Committee (SLSMC) constituted for oversight and approval of urban development projects.

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76. Consider the following statements regarding Viability Gap Funding (VGF):
Statement I: VGF is a capital grant provided to PPP projects that are economically justified but fall short of financial viability.
Statement II: To be eligible for VGF under GoI guidelines, the project must be implemented by a private sector company selected through transparent, open competitive bidding.
(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

77. Which of the following statements is INCORRECT regarding an Infrastructure Investment Trust (InvIT)?
(A) It funds greenfield projects with high construction risks and no current revenue.
(B) It is a pooled investment vehicle like a mutual fund, designed to hold operational infrastructure assets.
(C) It allows infrastructure developers to monetize their operational assets and free up capital for new projects.
(D) It provides long-term, yield-seeking investors with a steady return from the cash flows of operational infrastructure.

78. Match the PPP modalities in List I with their defining characteristics in List II:
List I: (PPP Modalities)
P. Build-Operate-Transfer (BOT)
Q. Build-Own-Operate-Transfer (BOOT)
R. Hybrid Annuity Model (HAM)
S. Operate-Maintain-Transfer (OMT)
List II: (Defining Characteristics)
1. The private player receives a portion of the project cost during construction and the rest as periodic payments during operation.
2. The private entity manages and maintains an already constructed asset for a concession period before handing it back.
3. The concessionaire builds, operates for a period, and transfers the asset back, but does not hold legal ownership of the asset during the concession.
4. The private entity retains ownership of the asset during the concession period, recovering costs through user charges before final transfer.
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-1, Q-2, R-3, S-4
(D) P-3, Q-1, R-4, S-2

79. In the risk matrix of a PPP concession agreement, what is the fundamental principle for risk allocation?
(A) All risks should be transferred to the private sector to protect public funds.
(B) All risks should be retained by the government since it is providing the public good.
(C) Risks should be randomly distributed to ensure mathematical fairness to all parties.
(D) Risks should be allocated to the party best able to assess, control, and manage them.

80. Conceptually, which critical provision in a PPP Concession Agreement defines the quantitative and qualitative levels of service the private partner must maintain throughout the contract period?
(A) The Force Majeure clause covering natural disasters.
(B) The Dispute Resolution mechanism for legal conflict.
(C) Key Performance Indicators (KPIs) and Service Level Agreements.
(D) The Change in Law provision regarding tax updates.

81. Consider the following typical outcomes or focus areas of the PPP reforms advocated under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM):
1. Encouraging ULBs to leverage private capital for urban transport and solid waste management.
2. Implementation of e-procurement and transparent bidding documents (Model Concession Agreements).
3. The complete privatization and sale of all municipal water sources to multinational corporations.
4. Institutionalizing the capacity of municipal bodies to structure and manage complex

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(A) Solid Waste Management facilities and treatment plants.
(B) Urban water supply and sewerage networks citywide.
(C) Routine retail shops and private commercial malls.
(D) Mass Rapid Transit Systems (MRTS) including metro rail.

95. Identify the INCORRECT pair of PPP modal abbreviations:
(A) BOT – Build, Operate, Transfer.
(B) DBFOT – Develop, Borrow, Fund, Observe, Terminate.
(C) HAM – Hybrid Annuity Model for infrastructure.
(D) OMT – Operate, Maintain, Transfer for assets.

96. Which mandatory reform under the historical JNNURM framework significantly laid the groundwork for PPPs in urban infrastructure by aiming to improve ULB creditworthiness?
(A) The abolition of all property taxes citywide.
(B) The banning of all private contractors from municipal limits.
(C) Implementation of double-entry accounting and reasonable user charges.
(D) The compulsory shift from motorized transport to horse-drawn carriages.

97. In the context of risk management in infrastructure contracts, how is 'Force Majeure' defined?
(A) An intentional breach of contract by the concessionaire to maximize corporate profit.
(B) An unforeseeable and unavoidable external event that prevents a party from fulfilling obligations.
(C) A deliberate policy change by the government to reduce the private party's tariff.
(D) The physical force applied during the geotechnical investigation of the project site.

98. In Madhya Pradesh, when a private operator manages a municipal water supply system under a PPP, an 'escrow account' is often utilized. What is its primary function in this context?
(A) To store water samples for quality testing.
(B) To act as a slush fund for unstructured expenditures.
(C) To pay the salaries of the state's cabinet ministers.
(D) To prioritize debt service and operator payments before the ULB accesses the surplus.

99. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): Escrow accounts and Letters of Credit (LC) act as crucial payment security mechanisms in PPP projects.
Reason (R): These mechanisms mitigate the revenue risk for the private concessionaire by ensuring that funds are ring-fenced and guaranteed even if the public authority defaults on periodic payments.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

100. Consider the following statements regarding the Risk Probability and Impact Matrix:
Statement I: It categorizes risks solely based on the mathematical exactness of their financial cost, ignoring qualitative probability.
Statement II: It evaluates each identified risk by assessing the likelihood of its occurrence and the severity of its consequence on project objectives.
(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

101. Which of the following is an INCORRECT statement regarding 'Construction Risk' in infrastructure projects?
(A) In a DBFOT contract, construction risk is typically borne by the public authority.
(B) It encompasses the risk of design failures

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(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

89. Which of the following statements correctly addresses 'risk reallocation' in the event of a failed PPP project?
(A) If the private partner goes bankrupt, the operational risk and asset control completely disappear.
(B) The risk is automatically absorbed by the users of the infrastructure without any impact on the government.
(C) Risk reallocation means the private partner's competitors are legally forced to take over the project.
(D) Ultimate responsibility for public service delivery and associated risks revert to the government.

90. Match the funding provisions regarding Viability Gap Funding (VGF) in List I with their standard limits in List II:
List I: (Funding Provisions)
P. Maximum VGF by Government of India (GoI)
Q. Maximum additional VGF by State Government/Sponsoring Authority
R. VGF disbursement stage
S. Primary condition for VGF bidding
List II: (Standard Limits/Conditions)
1. Usually disbursed proportionately along with the private partner's equity and debt during the construction phase.
2. Awarded to the bidder demanding the lowest quantum of VGF.
3. Up to 20% of the Total Project Cost (TPC).
4. Up to a further 20% of the Total Project Cost (TPC).
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-4, R-2, S-1
(D) P-1, Q-2, R-3, S-4

91. A municipality wants to implement a Waste-to-Energy project where the private sector will design, finance, construct, operate for 20 years, and then hand over the plant. The revenue will come from tipping fees and electricity sales. Which PPP model is the municipality structuring?
(A) Management Contract for short-term facility oversight.
(B) Design-Build-Finance-Operate-Transfer (DBFOT) model.
(C) Engineering, Procurement, and Construction (EPC) fixed-price contract.
(D) Build-Own-Operate (BOO) model for permanent private ownership.

92. How does the PPP model conceptually aim to improve 'efficiency' in urban infrastructure projects?
(A) By deliberately excluding technological innovations to keep initial building costs low.
(B) Linking private returns to performance metrics to incentivize timely, quality execution.
(C) By increasing the size of the bureaucratic approval committees and oversight layers.
(D) By relying heavily on annual government budget allocations for all routine maintenance.

93. Consider the following standard rights and obligations of a concessionaire mapped out in a typical urban transport Concession Agreement:
1. The right to collect user charges or receive annuity payments.
2. The obligation to achieve specific construction milestones within a stipulated timeframe.
3. The obligation to maintain the asset according to prescribed performance standards.
4. The right to change the statutory master plan of the city unilaterally.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

94. Which of the following is generally NOT an eligible sector for financial support under the traditional Scheme for Financial Support to PPPs in Infrastructure (VGF Scheme) by the Department of Economic Affairs (DEA)?

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₹75 Crores. Based on the Economic Benefit-Cost Ratio (BCR), what is the status of the project?
(A) The BCR is 0.67, making the project economically unviable for the municipality.
(B) The BCR is 1.5, indicating that the project's benefits outweigh its costs.
(C) The BCR is negative, meaning the project should be abandoned immediately by the city.
(D) The BCR cannot be calculated without knowing the private contractor's exact profit margin.

44. In the context of the DPR procurement plan, what does adopting a 'Contract Strategy' conceptually involve?
(A) Identifying which local politicians will cut the ribbon during the final inauguration.
(B) Selecting the mode of execution, like EPC or PPP, and defining the risk allocation.
(C) Establishing the maximum number of daily wage laborers allowed on the construction site.
(D) Selecting the color palette for the final architectural finishes and external branding.

45. Consider the following documents regarding strictly required Annexures in a comprehensive Detailed Project Report:
1. Land ownership documents and revenue maps.
2. Statutory No Objection Certificates (NOCs) from relevant authorities.
3. Detailed architectural and engineering drawings.
4. The daily personal diaries of the municipal engineers.

Which of the above statement(s) is/are correct?
(A) 1, 2, and 3 only
(B) 2, 3, and 4 only
(C) 1, 3, and 4 only
(D) 1, 2, 3, and 4

46. Which of the following is NOT a primary output of the engineering design phase during DPR preparation?
(A) Detailed layout plans and cross-sections.
(B) Geotechnical and structural stability reports.
(C) Calculation of the city's macro-economic inflation rate.
(D) Identification of utility shifting requirements.

47. Identify the INCORRECT pair regarding project cost estimation elements:
(A) Capital Expenditure (CAPEX) – Initial costs of land acquisition and construction.
(B) Operational Expenditure (OPEX) – Costs incurred for routine maintenance and staffing.
(C) Contingency Provision – Funds allocated for unforeseen physical or price variations.
(D) Sunk Cost – Future predictable expenditures planned in the O&M phase.

48. What does 'BOQ' stand for in the context of cost estimation in a DPR?
(A) Baseline of Quotations
(B) Bureau of Quality
(C) Bill of Quantities
(D) Benchmark of Qualifications

49. What is the fundamental distinction between a Feasibility Study and a Detailed Project Report (DPR)?
(A) A Feasibility Study provides final construction drawings, while a DPR only gives a rough conceptual idea.
(B) A Feasibility Study determines project viability, whereas a DPR provides the detailed blueprint for execution.
(C) A Feasibility Study is only conducted for private sector projects, whereas a DPR is strictly for public sector works.
(D) There is no distinction; both terms refer to the exact same document used in administrative processes.

50. In Madhya Pradesh, when a major urban infrastructure project is proposed, which state-level body or department primarily conducts the technical appraisal and provides clearance before administrative sanction?
(A) The Madhya Pradesh Tourism Board responsible for state-wide heritage conservation.
(B) The State Election Commission ensuring compliance with constitutional voting mandates.
(C) The Ministry of External Affairs handling international diplomatic protocols and

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and unforeseen ground conditions during building.
(C) It can lead to severe cost and time overruns if not mitigated through robust management.
(D) Mitigation strategies often include fixed-price contracts with liquidated damages clauses.

102. Match the Risk Mitigation Strategies in List I with their corresponding practical examples in List II:
List I: (Mitigation Strategies)
P. Avoid
Q. Transfer
R. Mitigate
S. Accept
List II: (Practical Examples)
1. Purchasing a comprehensive all-risk insurance policy for the construction site.
2. Acknowledging the risk of minor weather delays and building a slight contingency into the schedule.
3. Changing the proposed alignment of a highway to completely bypass a protected wildlife sanctuary.
4. Conducting extensive geotechnical soil testing to reduce the uncertainty of foundation design.
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-4, Q-2, R-1, S-3
(D) P-3, Q-4, R-1, S-2

103. A Town Planner is structuring a new metro rail PPP project. Metro rail ridership is notoriously difficult to forecast accurately. Which competency best handles this 'revenue risk'?
(A) Assigning the entire traffic risk to the private operator through a pure BOT-Toll model.
(B) Adopting a HAM model or minimum ridership payment to share the demand risk.
(C) Ignoring traffic projections completely and building the maximum possible engineering capacity.
(D) Making ridership mandatory for all government employees to ensure high daily ticket sales.

104. Conceptually, what is the primary difference between political risk and environmental risk in the lifecycle of an infrastructure project?
(A) Political risk is predictable, whereas environmental risk is governed by statutory laws.
(B) Political risk only occurs in operations, while environmental risk only occurs during construction.
(C) Political risk relates to legal changes, while environmental risk relates to ecological impacts.
(D) There is no difference; both are covered under standard insurance provided by the contractor.

105. Consider the following elements typically documented in a comprehensive Project Risk Register:
1. Description of the identified risk.
2. Probability and impact rating of the risk.
3. The designated risk owner responsible for management.
4. The planned mitigation response or contingency plan.
Which of the above statement(s) is/are correct?
(A) 1, 2, and 4 only
(B) 2, 3, and 4 only
(C) 1, 3, and 4 only
(D) 1, 2, 3, and 4

106. What is the most appropriate reason for including a 'Change in Law' provision in a long-term concession agreement?
(A) To protect investors from financial impacts caused by new legislation or tax revisions.
(B) To allow the private contractor to change the laws of the country at their own discretion.
(C) To give the government the right to arbitrarily reduce user fees without compensating the operator.
(D) To ensure that project design ignores all current building codes and safety regulations.

107. Identify the correct pair concerning insurance mechanisms for infrastructure risks:
(A) Contractor's All Risk (CAR) Policy – Protects government against changes in federal tax rates.
(B) Delay in Start-Up Insurance – Covers lost revenue resulting from delays due to insured perils.
(C) Third-Party Liability Insurance – Guarantees

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8. (C) Select the project supporting demographic distribution and land-use proposals specified in the development plan.
Capital investment planning must be intrinsically linked to the statutory master plan to ensure long-term urban sustainability. Projects that align with designated land-use and demographic projections facilitate organized growth and prevent infrastructure mismatch. Selecting investments based on the master plan's strategic framework ensures that limited municipal funds are used to support the city's established spatial and socio-economic development goals.

9. (B) 1, 2, and 4 only
Stakeholder prioritization involves identifying and engaging individuals or groups impacted by a project to ensure smooth implementation. Managing high-power, high-interest stakeholders closely is essential for navigating political and social complexities. While all stakeholders deserve consideration, prioritizing active engagement with key influencers helps mitigate resistance and fosters community ownership, which is vital for the long-term success of any urban infrastructure project.

10. (A) It prevents construction overlaps and aligns expenditure with the municipal borrowing capacity.
Sequencing investments within a City Investment Plan is vital for maintaining fiscal discipline and operational efficiency. By scheduling projects logically, municipalities avoid digging up roads multiple times for different utilities, thereby saving costs. This structured approach also ensures that the total capital expenditure remains within the local body's financial limits, preventing excessive debt while maintaining a steady pace of development.

11. (B) Gap Analysis – Comparing infrastructural deficits against normative standards to identify future needs.
Gap analysis is a central tool in urban infrastructure planning that identifies the difference between current service levels and prescribed benchmarks. By quantifying these deficits, planners can determine the exact capacity and scope required for new projects. This methodology ensures that infrastructure development is based on objective needs rather than subjective choices, leading to more effective urban service delivery and planning.

12. (A) 1, 3, 2, 4
The capital investment planning process begins with identifying service gaps to establish the need for intervention. Once potential projects are listed, they are prioritized using a multi-criteria matrix to determine their relative importance. Subsequently, the financial capacity of the municipality is assessed to ensure affordability. Finally, a multi-year layout is prepared to schedule project execution and link them with funding.

13. (A) A multi-year schedule of prioritized projects linked to identified funding sources.
The ultimate objective of capital investment planning is to produce a feasible roadmap for infrastructure development. This output, often called a Capital Investment Plan, details which projects will be undertaken over several years and specifies how they will be financed. It serves as a strategic bridge between the city's long-term vision and its immediate budgetary and operational constraints during implementation.

14. (C) Universal piped water supply and underground sewerage networks.
Fundamental urban services like water supply and sewerage are prioritized because they directly impact public health and quality of life. The Madhya Pradesh Urban Development Company focuses on these sectors to meet national service level benchmarks and ensure sustainable urban growth. Providing universal access to these basic amenities is considered a prerequisite for any further economic or social development within the state's municipal areas.

15. (D) A is false but R is true.
Pan-City proposals are designed to improve services across the entire municipal area through the application of technology, meaning they have a large digital footprint rather than a concentrated physical one. In contrast, Area Based Development focuses on intensive infrastructure upgrades within a small, specific zone. Therefore, Pan-City initiatives aim for broad urban transformation rather than localized physical intervention within a city.

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S. Political Risk

List II: (Examples)

1. Unprecedented flooding damaging the construction site.
2. The executing agency's inability to procure spare parts, leading to asset breakdown.
3. Fluctuation in interest rates and currency exchange rates affecting debt repayment.
4. Cancellation of a toll-collection notification due to public protests and government order.

(A) P-3, Q-1, R-2, S-4
(B) P-3, Q-2, R-1, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-1, Q-3, R-4, S-2

115. A private concessionaire operating a toll road faces a massive revenue shortfall because an alternative, toll-free state highway was constructed nearby. Under standard PPP risk allocation, how is this scenario handled?

(A) It is typically handled by a 'Competing Facility' clause, entitling the operator to compensation.
(B) The concessionaire bears the full risk as part of standard market competition in the sector.
(C) The operator is legally required to demolish the competing state highway at their own expense.
(D) The operator claims Force Majeure and immediately abandons the project without legal penalty.

116. Conceptually, what is the primary purpose of the Asian Development Bank's (ADB) Safeguard Policy Statement (SPS) during risk management?

(A) To guarantee the maximum possible financial return for the international contractors involved.
(B) To safeguard the physical assets of the ADB headquarters and its international branch offices.
(C) To ensure project risks related to environment and resettlement are avoided or mitigated.
(D) To dictate the exact macroeconomic monetary policy of the borrowing country during the loan.

117. Consider the following features characteristic of an Escrow Account mechanism used for payment security in urban infrastructure projects:

1. It is operated by an independent escrow agent or trustee bank.
2. It prioritizes the routing of cash flows (like user fees) to service debt and O&M expenses before passing the surplus to the ULB.
3. It completely eliminates the physical construction risk of the project.
4. It provides comfort to lenders regarding the predictability of debt repayment.

Which of the above statement(s) is/are correct?

(A) 1, 2, and 4 only
(B) 1, 3, and 4 only
(C) 2, 3, and 4 only
(D) 1, 2, 3, and 4

118. Which of the following events would NOT typically be classified as a 'Force Majeure' event in an infrastructure contract?

(A) An unprecedented 100-year flood that destroys the foundation of a major city bridge.
(B) A nationwide declaration of war impacting supply chains and material availability citywide.
(C) An earthquake measuring 8.0 on the Richter scale occurring at the project site.
(D) Contractor inability to secure a loan due to poor internal corporate credit ratings.

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119. Identify the INCORRECT pair linking a specific risk to the project phase where it is most prominent:

(A) Land Acquisition Risk – Pre-construction and Planning Phase.
(B) Detailed Engineering Design Risk – Decommissioning Phase.
(C) Geotechnical/Sub-surface Risk – Construction Phase.
(D) Revenue/Traffic Risk – Operations Phase.

120. What is the most appropriate primary benefit of maintaining a continuous and dynamic 'Risk Register' throughout the lifecycle of an infrastructure project?

(A) It fulfills bureaucratic requirements for filing paperwork without any practical application.

24. (C) Focus on a combination of a localized ABD area and an IT-based Pan-City solution.
The Smart Cities Mission guidelines require cities to propose both Area Based Development and Pan-City solutions. For a city like Jabalpur, this means identifying a specific zone for intensive infrastructure retrofitting while simultaneously implementing technology-driven services, such as smart traffic management or e-governance, across the entire municipal area. This dual approach ensures both visible local transformation and city-wide improvements in service efficiency.

25. (D) A comprehensive blueprint providing engineering, financial, and institutional data for execution.
A Detailed Project Report serves as the final planning document required before a project transitions into the implementation phase. it contains all the necessary technical specifications, cost estimates, financial modeling, and operational plans. This document acts as a complete guide for engineers, contractors, and financial institutions, ensuring that the project is technically sound, financially viable, and ready for tender and construction.

26. (A) Engineering surveys, geotechnical investigations, and traffic demand modeling.
For transit projects, technical and structural specifications must be based on precise physical and demand data. Engineering and geotechnical surveys provide information about the soil and site conditions, while traffic modeling determines the required capacity. Finalizing design without these inputs would lead to inaccurate costing and potential structural failure. These investigations are essential prerequisites for creating a reliable and safe infrastructure blueprint.

27. (A) Both A and R are true and R is the correct explanation of A.
Financial viability in a DPR is often assessed using the Net Present Value method, which accounts for the time value of money. A positive NPV signifies that the project's expected income, when discounted to present terms, exceeds its initial and ongoing costs. This indicates that the investment is profitable over its lifetime, providing a clear justification for financial commitment by the government or private investors.

28. (C) Both Statement I and Statement II are correct.
Accurate cost estimation in a DPR depends on a detailed Bill of Quantities, which lists every material and task required for construction based on final engineering designs. To ensure these costs are realistic, they are calculated using the government's Schedule of Rates or current market data. This rigorous process prevents significant budget deviations and ensures that the project is appropriately funded from the start.

29. (A) It ensures the project will be completed without time overruns despite external factors.
An implementation schedule is a planning tool that outlines the sequence of construction activities and sets milestones for progress. While it helps in managing and tracking time, it cannot guarantee that a project will be free from delays caused by external factors like legal disputes or natural disasters. Its primary purpose is to provide a structured timeline to minimize controllable delays and ensure accountability.

30. (A) P-4, Q-1, R-3, S-2
Each section of a DPR addresses a specific aspect of the project lifecycle. The project context establishes the need and alignment with master plans, while the O&M plan ensures long-term sustainability. Environmental assessments identify pollution risks and mitigation measures. Annexures provide supporting documents like maps and legal clearances. Together, these components ensure that all technical, environmental, and administrative requirements are thoroughly addressed before execution.

31. (D) Selecting an EPC model or PPP to transfer design and performance risks to private entities.
For technically complex projects like waste-to-energy plants, traditional item-rate contracts may not be suitable as they leave most risks with the government. Adopting an EPC or PPP model allows the public sector to leverage private expertise in both design and operations. This strategy transfers significant technical and performance risks to the contractor, ensuring higher efficiency and better accountability for the project's long-term success.

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ANSWERS

1. (B) To identify the gap between existing infrastructure conditions and desired service standards.
   A needs assessment serves as the foundational step in urban planning by systematically analyzing current service levels against established benchmarks. This process highlights specific deficits in infrastructure, enabling planners to prioritize interventions where the urgency is greatest. By quantifying these gaps, decision-makers can ensure that public funds are directed toward projects that provide the most significant community impact.

2. (D) Service level benchmarking gaps identified by Urban Local Bodies (ULBs).
   Under the CMUIDS framework, Urban Local Bodies are tasked with assessing their current infrastructure performance against national service level benchmarks. This empirical approach ensures that projects are not selected arbitrarily but are instead designed to address documented shortages in essential services like water supply and sanitation. This data-driven identification process facilitates objective planning and efficient resource allocation.

3. (A) Both A and R are true and R is the correct explanation of A.
   City Investment Plans prioritize core services such as water and sanitation because these are fundamental to public health and urban survival. AMRUT guidelines reinforce this prioritization by mandating that cities must achieve universal coverage in these essential sectors before diverting funds to secondary infrastructure like parks. This hierarchical approach ensures that basic human needs are met before enhancing urban aesthetics.

4. (B) Statement I is incorrect and Statement II is correct.
   Multi-criteria project prioritisation matrices go beyond simple financial returns to incorporate social, environmental, and technical factors. While revenue generation is important for municipal stability, urban projects often aim for broader public welfare goals. By assigning specific weightages to diverse criteria, planners can rank competing projects more holistically, ensuring that selected investments align with the city's overall strategic vision and sustainability.

5. (A) It eliminates the need for environmental clearances for all urban transport projects.
   The PM Gati Shakti National Master Plan is designed to streamline infrastructure development through a GIS-based platform that integrates planning across various departments. While it significantly reduces administrative delays and improves multi-modal connectivity, it does not bypass statutory environmental regulations. Mandatory clearances remain a critical requirement to ensure that large-scale infrastructure projects do not cause irreversible damage to the ecosystem.

6. (A) P-1, Q-2, R-3, S-4
   Scoring parameters provide a quantitative basis for ranking urban projects. Urgency evaluates the immediate risk to public safety, while impact measures the breadth of socio-economic benefits. Feasibility focuses on the practical viability of the proposal, and readiness assesses whether administrative prerequisites, such as land availability and necessary clearances, are already in place. This systematic scoring ensures a transparent and objective selection process.

7. (B) Delineating a specific area to maximize the impact of comprehensive infrastructure retrofitting.
   Area Based Development focuses on transformative improvements within a defined geographic boundary to serve as a replicable model for the rest of the city. Identifying a precise zone allows planners to concentrate resources and integrate various smart solutions effectively. This spatial targeting is critical for ensuring that the benefits of retrofitting or redevelopment are tangible and achieve the mission's objectives.

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(B) It ensures the project budget can be arbitrarily inflated by the project manager at any time.
(C) It systematically tracks risks and assigns accountability to keep mitigation responses effective.
(D) It replaces the need for actual physical supervision of the construction site and labor.

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16. (C) Both Statement I and Statement II are correct.
A City Development Plan acts as a strategic vision document that guides a city's growth over a long horizon. Projects identified in isolation often lead to fragmented infrastructure that fails to support broader urban goals. By deriving specific capital projects from the CDP, planners ensure that every investment contributes to the integrated spatial, economic, and social development envisioned for the city.

17. (B) It mandates bottom-up project selection, starting with citizen surveys and the State Annual Action Plan.
AMRUT emphasizes a bottom-up approach to urban planning, where projects are identified based on ground-level needs and citizen feedback. Cities prepare Service Level Improvement Plans, which are then integrated into a State Annual Action Plan. This process ensures that infrastructure projects are relevant to the local population and that state governments play a central role in prioritizing and overseeing development.

18. (A) P-4, Q-1, R-3, S-2
The Smart Cities Mission utilizes four key strategies to transform urban areas. Retrofitting involves upgrading existing infrastructure in built-up areas. Redevelopment entails replacing old structures with modern facilities and higher density. Greenfield development focuses on building new smart townships on vacant land. Pan-city development applies digital solutions across the entire city to improve governance and service delivery, ensuring a comprehensive approach to urban modernization.

19. (A) Augmenting water source capacity and undertaking leakage reduction and metering.
A gap analysis revealing low per capita supply and high non-revenue water points to both resource scarcity and system inefficiency. Prioritizing source augmentation addresses the supply deficit, while leakage reduction and metering tackle the significant water loss. This twin-pronged approach is essential for achieving service level benchmarks and ensuring the financial and operational sustainability of the city's water supply system.

20. (C) By assigning higher weightages to indicators like morbidity reduction and essential service gaps.
Planners use weightages in a multi-criteria matrix to reflect the relative importance of different urban goals. By giving more points to health-related indicators and basic service needs, essential infrastructure naturally ranks higher than aesthetic or recreational projects. This ensures that limited resources are directed toward interventions that solve critical problems, such as disease prevention and universal service access, rather than non-essential improvements.

21. (A) 1, 2, and 3 only
A City Investment Plan focuses on strategic financial and physical planning over a multi-year period. It includes baseline data on service gaps, a financial plan for the municipality, and sector-wise investment requirements. However, it does not typically include detailed structural engineering drawings, as these are part of the subsequent Detailed Project Report phase after a project has been prioritized and approved.

22. (D) The aesthetic preference of the external international consultant.
Feasibility scores are based on objective technical, financial, and regulatory parameters that determine if a project can be successfully implemented. Factors such as land availability, environmental clearances, and the financial strength of the implementing agency are critical for viability. Subjective aesthetic preferences do not impact the core feasibility of infrastructure and are generally not included in formal project prioritization or technical appraisal processes.

23. (B) Non-Revenue Water (NRW) – Target of 20% as per SLB guidelines.
While reducing water loss is a priority, national service level benchmarks set a realistic target for Non-Revenue Water at 20%, rather than 0%. Achieving zero percent NRW is technically and economically impractical for most municipal systems. The benchmarks for water supply, waste collection efficiency, and sewage treatment capacity are set at higher levels to ensure comprehensive and sustainable service delivery across cities.

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that the project will be profitable for all parties.

(D) Professional Indemnity Insurance – Compensates for natural wear and tear of physical assets.

108. Arrange the standard stages of the risk management lifecycle in the correct chronological order:

1. Risk Identification
2. Risk Monitoring and Reporting
3. Risk Assessment and Prioritization (Probability/Impact Matrix)
4. Formulation and Implementation of Risk Mitigation Strategies

(A) 1, 3, 4, 2
(B) 1, 4, 3, 2
(C) 3, 1, 4, 2
(D) 1, 2, 3, 4

109. Which of the following best characterizes the World Bank's framework for managing environmental and social risks in infrastructure projects?

(A) The ESF, which relies on ten standards that borrowers must meet for project approval.
(B) The Global Risk Avoidance Treaty (GRAT), which prohibits all greenfield development works.
(C) The Financial Internal Rate of Return (FIRR) threshold mandate for all infrastructure loans.
(D) The direct management of all local labor forces by World Bank officials stationed at sites.

110. A major bulk water supply project sourcing water from the Narmada River for a city in Madhya Pradesh faces severe delays due to unexpected hard rock excavation. This is an example of which type of risk?

(A) Political Risk
(B) Market / Revenue Risk
(C) Construction / Technical Risk
(D) Foreign Exchange Risk

111. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R).
Assertion (A): Continuous monitoring and reporting of project risks are essential throughout the execution phase of an infrastructure project.
Reason (R): The risk profile of a project is dynamic; new risks can emerge and the probability or impact of existing risks can change over time.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

112. Consider the following statements regarding Environmental and Social risk management:
Statement I: It exclusively involves the payment of financial compensation to affected landowners.
Statement II: It entails implementing robust management plans (like EMP and RAP) to continuously monitor and mitigate adverse impacts on local ecology and communities.

(A) Statement I is correct and Statement II is incorrect.
(B) Statement I is incorrect and Statement II is correct.
(C) Both Statement I and Statement II are correct.
(D) Both Statement I and Statement II are incorrect.

113. Which of the following statements is correct regarding the mitigation of cost overrun risks?

(A) Cost overrun risks are best mitigated by omitting the initial geotechnical investigations to save money.
(B) Implementing strict change-order controls and comprehensive engineering design mitigates overruns.
(C) The government assumes all cost overrun risks under a fixed-price turnkey contract model.
(D) Cost overruns cannot be mitigated; they must simply be accepted as a feature of all urban projects.

114. Match the broad risk categories in List I with their typical examples in List II:
List I: (Risk Categories)

P. Financial Risk
Q. Environmental Risk
R. Operational Risk

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32. (C) It compares the value of socio-economic benefits against the total project economic costs.
Public investments are often justified through economic analysis, where the Benefit-Cost Ratio accounts for more than just financial revenue. It includes quantifiable socio-economic gains, such as time savings, improved public health, and environmental protection. A BCR greater than one indicates that the total welfare benefits to society exceed the economic costs of the project, making it a worthwhile use of public funds.

33. (A) 1, 2, and 3 only
Operations and Maintenance projections focus on the recurring expenses required to keep an asset functional after construction. This includes power costs, repairs, and staff salaries. Sunk costs, such as expenses from past feasibility studies, are excluded because they cannot be recovered and do not impact future operational spending. Accurate O&M forecasting is crucial for ensuring the project's long-term reliability and financial sustainability.

34. (D) To ensure safety and accurate costing, thereby minimizing variation orders during construction.
Detailed technical specifications are essential in a DPR to provide a precise basis for construction and budgeting. Vague estimates often lead to "variation orders" or change requests during construction, which cause delays and cost overruns. By conducting rigorous engineering design upfront, planners ensure structural integrity and financial discipline, allowing the project to proceed smoothly without frequent and expensive modifications to the original plan.

35. (A) Topographical Survey – Mapping contours, elevations, and physical features of the project site.
A topographical survey is a fundamental engineering task that provides detailed information about the physical layout and elevation of the land. This data is critical for designing foundations, drainage systems, and road alignments. Geotechnical investigations focus on soil properties rather than traffic, while hydrological studies analyze water-related aspects rather than financial returns. Accurate topographical data is the starting point for any sound engineering design.

36. (B) 1, 2, 3, 4
Preparing a DPR follows a logical sequence starting with justifying the project's need. Once the need is established, detailed surveys provide the technical data required for engineering. This data allows for the creation of the Bill of Quantities and accurate cost estimates. Finally, financial and economic analyses are performed to determine the project's viability and return on investment, completing the comprehensive project blueprint.

37. (A) It represents the project schedule, showing start and finish dates of work breakdown elements.
A Gantt chart is a visual project management tool used in a DPR to map out the implementation timeline. It displays individual tasks as horizontal bars, indicating their duration and sequence. This allows project managers to track progress against milestones and understand the interdependencies between different construction activities. It is essential for ensuring that the project stays on schedule and for identifying potential bottlenecks.

38. (D) The MP PWD Schedule of Rates (SOR) or Urban Administration and Development (UAD) SOR.
In Madhya Pradesh, the standard practice for cost estimation in municipal projects is to use the officially approved Schedule of Rates. These documents provide pre-determined unit prices for various construction materials and labor tasks, adjusted for local conditions. Relying on the SOR ensures consistency, transparency, and administrative compliance in budgeting, making it easier for state authorities to appraise and approve the proposed expenditures.

39. (A) Both A and R are true and R is the correct explanation of A.
The Internal Rate of Return is a standard financial metric used to evaluate the profitability of an investment. It is defined as the discount rate that makes the Net Present Value of all cash flows equal to zero. In urban projects, a high IRR indicates that the project can generate enough revenue to cover its costs and provide a return, making it attractive for financing.

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40. (C) Both Statement I and Statement II are correct.
The 'Need and Justification' section is the logical foundation of a DPR. It uses data on current infrastructure deficits and future demand to prove why the project is necessary. By referencing service level benchmarks and statutory master plans, this section ensures that the proposed investment is not arbitrary but is a required step toward meeting the city's long-term development and service goals.

41. (D) To identify potential impacts and propose adequate mitigation measures and management plans.
An Environmental and Social Assessment Summary in a DPR evaluates how a project might affect the local ecosystem and community. Its purpose is to identify risks like pollution or displacement and outline specific plans to minimize these harms. This assessment is vital for ensuring sustainable development and is often a mandatory requirement for obtaining environmental clearances and securing funding from international financial institutions.

42. (A) P-3, Q-4, R-2, S-1
Financial metrics provide different perspectives on project viability. NPV measures the total value added in today's terms, while IRR indicates the project's efficiency as a percentage return. The Benefit-Cost Ratio shows the relative value of benefits compared to costs, and the payback period determines how quickly the initial investment is recovered. Using these metrics together allows for a comprehensive financial appraisal of the project.

43. (B) The BCR is 1.5, indicating that the project's benefits outweigh its costs.
To calculate the Benefit-Cost Ratio, the present value of benefits (₹75 Crores) is divided by the present value of costs (₹50 Crores). A result of 1.5 indicates that for every rupee spent, the project generates 1.5 rupees in socio-economic and financial value. Since the BCR is greater than one, the project is considered economically viable and justified for public or private investment.

44. (B) Selecting the mode of execution, like EPC or PPP, and defining the risk allocation.
A contract strategy in a DPR involves choosing the most appropriate legal and operational framework for project delivery. It defines whether the government will build the project directly (EPC) or partner with the private sector (PPP). This decision determines how risks, such as construction delays or financial shortfalls, are shared between the parties, ensuring that the project is managed by those best equipped to handle it.

45. (A) 1, 2, and 3 only
Annexures provide the evidentiary support for the claims made in a DPR. Mandatory documents include proof of land ownership, statutory NOCs from various government departments, and final technical drawings. These documents confirm that the project is legally and technically feasible. Personal diaries or unofficial notes are not part of a formal DPR, as they lack the legal and technical standing required for official appraisal and approval.

46. (C) Calculation of the city's macro-economic inflation rate.
The engineering design phase focuses on the physical and structural aspects of a project, such as layout plans, stability reports, and utility mapping. While inflation is considered during financial modeling, the calculation of a city's overall macroeconomic inflation rate is a broader economic task performed by central or state agencies. Engineering design is strictly concerned with ensuring that the specific asset is safe, functional, and correctly sited.

47. (D) Sunk Cost – Future predictable expenditures planned in the O&M phase.
Sunk costs refer to money that has already been spent on a project and cannot be recovered, such as initial research or pre-feasibility studies. They are independent of any future costs or decisions. In contrast, future expenditures for maintenance are classified as Operational Expenditure (OPEX). Understanding the difference is crucial for accurate financial appraisal, as only future costs and benefits determine a project's current economic viability.

48. (C) Bill of Quantities
The Bill of Quantities is a comprehensive document in a DPR that itemizes every material, part, and labor requirement for a construction project. It provides the quantities of these items

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as derived from the engineering drawings. The BOQ is essential for accurate cost estimation and serves as the primary document for contractors to submit their financial bids during the tendering process.

49. (B) A Feasibility Study determines project viability, whereas a DPR provides the detailed blueprint for execution.
A feasibility study is a preliminary assessment that asks whether a project should be done based on technical, financial, and social factors. Once viability is confirmed, a DPR is prepared as a rigorous, final document that provides all the specific details needed for construction. While a feasibility study is about decision-making, a DPR is about the direct implementation of the chosen solution.

50. (D) The TCP Directorate or the UDHD Technical Committee for state appraisal.
In Madhya Pradesh, the Town and Country Planning (TCP) Directorate and the Urban Development and Housing Department (UDHD) are the primary bodies responsible for technical oversight. They review urban project proposals to ensure they align with state policies, engineering standards, and master plans. This technical appraisal is a mandatory step before a project receives final administrative sanction and funding, ensuring quality and consistency in urban development.

51. (A) Both A and R are true and R is the correct explanation of A.
Public infrastructure projects often generate benefits that are not captured through user fees, such as reduced pollution and improved travel efficiency. While these benefits do not improve the project's financial return (FIRR), they significantly contribute to the overall economic well-being (EIRR). Therefore, a project may be considered a successful public investment due to its positive societal externalities even if it requires government subsidies to remain financially operational.

52. (C) Both Statement I and Statement II are correct.
High-value central government projects undergo a rigorous two-stage appraisal and approval process. The Expenditure Finance Committee first conducts a detailed technical and financial review of the proposal. Once the EFC provides its recommendation, the Cabinet Committee on Economic Affairs gives the final executive approval. This structured approach ensures that large-scale public expenditures are subject to thorough scrutiny and align with national economic priorities.

53. (A) Socially desirable projects without revenue or guarantees are considered highly bankable.
Bankability refers to the likelihood that a project will attract financing from lenders, which depends primarily on a strong revenue model and risk mitigation. Projects that are socially beneficial but lack clear income streams or government guarantees are generally not considered bankable by commercial banks. Lenders prioritize projects with high Debt Service Coverage Ratios, ensuring that the project can reliably meet its financial obligations to its creditors.

54. (A) P-2, Q-4, R-3, S-1
Project appraisal involves evaluating various feasibility dimensions. Technical feasibility ensures the design is sound, while financial feasibility checks for profitability and funding. Environmental feasibility reviews ecological impacts and mitigation plans, and institutional feasibility assesses the ability of the agency to execute and manage the asset. This multi-dimensional review ensures that all potential risks—from engineering failures to management weaknesses—are addressed before the project begins.

55. (B) Institutional Feasibility
Institutional feasibility assesses whether the implementing agency has the legal, administrative, and technical capacity to handle a project. A municipality lacking specialized engineers for a technologically advanced plant represents a failure in institutional capacity. To make the project viable, a plan for staff training or the hiring of external experts would be required, ensuring the agency can effectively operate and maintain the facility.

56. (C) Overruns compound CAPEX through inflation and interest, severely lowering the project IRR.
Delays in construction significantly damage a project's financial health by increasing the total

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capital cost. As time passes, the prices of materials often rise due to inflation, and the interest on borrowed funds continues to accumulate. These added costs do not generate additional revenue, leading to a much lower Internal Rate of Return. This financial strain can make a once-viable project economically unsustainable.

57. (A) 1, 2, and 3 only
Multilateral agencies like the World Bank apply rigorous standards to ensure projects are sustainable and transparent. They focus on environmental safeguards, economic viability, and open competitive procurement. These agencies strictly prohibit project funds from being used for political purposes or any form of corruption. Adhering to these international standards is a mandatory condition for receiving loans and technical assistance for urban infrastructure development.

58. (A) To ensure technical soundness and mission compliance before approving state funding allocation.
Under centrally sponsored schemes, State-level Project Appraisal Committees serve as a critical checkpoint. Their primary role is to verify that project proposals are technically feasible and meet the specific goals of the national mission, such as AMRUT. By conducting this high-level review, the committee ensures that state and central funds are allocated to well-prepared projects that will effectively deliver urban services.

59. (B) SIA – Evaluating consequences on local communities, including displacement and livelihood impacts.
Social Impact Assessment is a specialized study used during project appraisal to understand how a project will affect people's lives. It focuses on identifying potential negative outcomes like the loss of homes or jobs, allowing planners to create mitigation strategies. This process is essential for ensuring social equity and is different from technical or financial metrics like IRR and NPV, which focus on engineering and profit.

60. (A) 1, 2, 3, 4
The approval process for high-value central projects starts with a pre-feasibility study by the relevant ministry. This is followed by inter-ministerial consultations to refine the proposal into an EFC memo. The Expenditure Finance Committee then appraises the project's technical and financial aspects. Finally, the Cabinet Committee on Economic Affairs provides the ultimate approval, allowing the project to proceed to implementation and funding.

61. (A) Lenders' willingness to finance based on risk profile, assured cash flows, and legal structure.
Bankability is a measure of how attractive a project is to potential financiers, particularly banks. It depends on whether the project has a clear and reliable way to repay its debts through steady cash flows. A well-structured project with a low risk profile and strong legal protections for lenders is considered highly bankable, making it much easier to secure the necessary capital for construction.

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62. (C) The State High Powered Steering Committee (SHPSC) headed by the Chief Secretary.
In the governance structure for urban missions in Madhya Pradesh, the SHPSC is the highest decision-making body at the state level. Chaired by the Chief Secretary, it reviews and approves project proposals, annual action plans, and funding allocations. This committee ensures that urban projects across the state are aligned with mission guidelines and state priorities, providing the final administrative clearance required for implementation.

63. (A) Both A and R are true and R is the correct explanation of A.
A Social Impact Assessment is vital because it addresses the human element of infrastructure development. By identifying who will be displaced or lose their livelihood, planners can develop fair compensation and resettlement plans. This proactive approach helps in gaining the trust and acceptance of the local community, which is essential for preventing protests and legal delays that could otherwise stall the project.

64. (A) Statement I is correct and Statement II is incorrect.
Economic feasibility analysis accounts for all significant impacts a project has on society, known as externalities. Positive externalities, like increased property values or time savings, are included as benefits. Similarly, negative externalities, such as environmental pollution

or traffic congestion, must be included as costs in a comprehensive economic analysis. Ignoring negative externalities would lead to an inaccurate and overly optimistic assessment of the project's true value to society.

65. (B) ADB mandates compliance with its Safeguard Policy Statement on environment and resettlement.
The Asian Development Bank requires all its funded projects to follow strict environmental and social safeguards. These policies are designed to avoid, minimize, or compensate for adverse impacts on the environment and affected people. Compliance with these safeguards is a non-negotiable condition for ADB financing, ensuring that urban infrastructure projects promote sustainable and inclusive development while protecting vulnerable populations and the local ecosystem.

66. (A) P-3, Q-4, R-2, S-1
Project management involves monitoring various forms of deviations. Cost overruns occur when spending exceeds the budget, while time overruns represent schedule delays. Scope creep refers to the uncontrolled addition of project requirements without corresponding budget increases. When these changes become significant, a Revised Cost Estimate must be formally prepared and approved to adjust the project's legal and financial framework, ensuring continued administrative support.

67. (A) The calorific value and moisture content of the municipal solid waste generated in the city.
The technical viability of a waste-to-energy incineration plant depends entirely on the quality of the fuel—the municipal waste itself. If the waste has low calorific value or high moisture content, it cannot be burned efficiently to produce power. Therefore, analyzing the chemical and physical properties of the local waste stream is the most critical technical step in appraising whether such a technology is suitable for the city.

68. (C) It relies on secondary data and thumb-rule estimates, carrying a higher margin of error.
A pre-feasibility study is a preliminary screening tool used to quickly assess if a project concept is worth further investigation. Because it uses existing data and simplified calculations rather than detailed site surveys, its findings are less precise than a full feasibility study or DPR. While it saves time and money initially, its primary limitation is the inherent uncertainty and potential for error in its early-stage estimates.

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69. (A) 1, 2, and 3 only
A Revised Cost Estimate is required when a project's budget significantly increases due to legitimate factors. These include inflation in material prices, necessary changes in technical design, or delays in land acquisition that lead to higher interest costs. Changes in administrative leadership, like a new municipal commissioner, are routine personnel matters and do not justify a formal revision of a project's technical and financial budget.

70. (D) The geological fault lines underlying the project site.
Institutional feasibility focuses on the human and administrative capacity to execute a project, such as legal powers, staffing, and coordination. Geological features, such as fault lines, are part of the technical or environmental feasibility assessment. While geological risks are crucial for structural safety, they do not relate to the organizational or management capabilities of the agency, which is the primary focus of institutional appraisal.

71. (B) Environmental Feasibility – Debt Service Coverage Ratio (DSCR).
The Debt Service Coverage Ratio is a financial metric used to evaluate a project's ability to repay its loans; it is not a measure of environmental feasibility. Environmental feasibility is assessed through Environmental Impact Assessments and compliance with ecological standards. Other pairs, like NPV for financial viability and EIRR for economic viability, correctly link appraisal parameters with their standard metrics, ensuring a consistent approach to project evaluation.

72. (C) Mandate a detailed hydrological yield study of the proposed surface water source.
When a discrepancy in critical data like source sustainability is identified, the most responsible action for a planner is to demand further investigation. A water supply project cannot succeed if the water source is unreliable. Requiring a detailed hydrological study ensures

CHAPTER 20
Project Implementation and Monitoring

1. What is the primary purpose of utilizing the Logical Framework (Logframe) approach in urban project implementation?
(A) To link project inputs, outputs, outcomes, and goals in a systematic matrix
(B) To monitor daily worker attendance and site security protocols strictly
(C) To calculate the total financial expenditure for all construction materials
(D) To produce detailed architectural and spatial layouts for urban zones

2. In the context of project management, how does the Critical Path Method (CPM) primarily differ from the Program Evaluation and Review Technique (PERT)?
(A) CPM is probabilistic and event-oriented, whereas PERT is deterministic and activity-oriented.
(B) CPM focuses on financial phasing, whereas PERT focuses on spatial project phasing.
(C) CPM is deterministic with single time estimates, while PERT is probabilistic with three.
(D) CPM is used for procurement, whereas PERT is used for preliminary site preparation.

3. Which of the following statements correctly describes a Work Breakdown Structure (WBS)?
(A) A hierarchical decomposition of the total scope of work to be carried out by the team
(B) A chronological schedule of all external funding received from international agencies
(C) A spatial mapping tool used to identify geotagged assets under housing schemes
(D) A contract document specifying standard FIDIC conditions between the client and contractor

4. Which procurement strategy is typically mandated for Externally Aided Projects (EAPs) funded by agencies like the World Bank or JICA to ensure global participation?
(A) Single Source Selection
(B) National Competitive Bidding (NCB)
(C) Limited Tender Enquiry
(D) International Competitive Bidding (ICB)

5. A municipal engineer is tracking the installation of a water treatment plant where the civil works are delayed, affecting subsequent electromechanical installations. Which tool would most effectively visualize this overlapping delay against the original baseline schedule?
(A) Logframe Matrix
(B) Gantt Chart
(C) Topographic Map
(D) FIDIC Red Book

6. Arrange the standard phases of project implementation in the correct chronological order:
1. Handover and O&M transition
2. Procurement and Contract Award
3. Commissioning and testing
4. Mobilisation and site preparation
5. Construction supervision

(A) 2, 4, 5, 3, 1
(B) 4, 2, 5, 1, 3
(C) 2, 4, 3, 5, 1
(D) 4, 5, 2, 3, 1

7. Consider the following statements regarding the FIDIC conditions of contract used in major urban infrastructure projects:
Statement I: FIDIC contracts provide standard conditions that equitably allocate risks between the Employer and the Contractor.
Statement II: The FIDIC "Red Book" is predominantly used for projects where the design is provided by the Contractor.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II

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81. (A) 1, 2, and 4 only
JNNURM reforms aimed to modernize urban governance and encourage private sector participation. This included using PPPs for services like transport and waste, and making procurement more transparent through e-tendering. A key goal was to build the capacity of local bodies to handle complex contracts. However, the mission did not advocate for the total privatization or sale of municipal water sources, as these remain critical public assets under government control.

82. (C) Technical and socio-political risk mismanagement combined with cost factors.
Failures in urban water PPPs often stem from a combination of unforeseen technical difficulties, such as dilapidated networks, and social resistance to tariff increases. If these risks are not accurately assessed or if there is no political support for cost-recovery, the project can become financially unviable. Successful water partnerships require a careful balance between private efficiency, realistic technical goals, and public acceptance of the service's value.

83. (A) Solid Waste Management – Collection and processing via DBFOT contracts.
Solid waste management is a common and successful area for PPPs in India. Using DBFOT contracts, private companies design and build processing plants, finance the equipment, and operate the service for a long period. This model leverages private technology for waste treatment and recycling, which are often more efficient than traditional municipal methods, while the city ensures that environmental standards and collection targets are met.

84. (A) 3, 1, 4, 2
The procurement process for a PPP project begins with initial approvals and a Request for Qualification to identify capable bidders. Qualified firms are then invited to submit detailed proposals through a Request for Proposal. After evaluating these financial and technical bids, the best partner is selected. The process concludes with the formal signing of the Concession Agreement, which establishes the legal framework for the long-term partnership.

85. (A) Hybrid Annuity Model
The Hybrid Annuity Model is a popular PPP structure in India, particularly for road projects. It is called "hybrid" because it combines elements of traditional EPC contracts and BOT (Annuity) models. The government provides 40% of the project cost during construction, while the private partner finances the remaining 60%. This structure reduces the financial burden on the private sector and shares the risks more evenly between the government and the developer.

86. (D) MP Public Asset Management Department or Infrastructure Investment Fund Board.
In Madhya Pradesh, specialized agencies under the Finance Department are responsible for the financial oversight and approval of large-scale infrastructure and PPP projects. These bodies evaluate the economic impact and fiscal risks of proposed partnerships, ensuring they are sustainable for the state's budget. Their clearance is a vital step in the administrative process, providing the necessary financial scrutiny before the state commits to long-term infrastructure contracts.

87. (D) Both A and R are false.
Both statements are incorrect because Infrastructure Investment Trusts (InvITs) are specifically designed for operational, income-generating projects, not greenfield projects with high construction risks. InvITs provide a way for developers to monetize completed assets, thereby freeing up capital. They are unsuitable for projects facing significant pre-construction delays like land acquisition, as they require a predictable stream of cash flow to provide returns to investors.

88. (C) Both Statement I and Statement II are correct.
The distinction between BOO and BOOT models lies in the ultimate ownership of the facility. In a Build-Own-Operate model, the private entity keeps the asset permanently. In a Build-Own-Operate-Transfer model, the private partner operates the facility for a set period to recover their investment and profit, after which the legal ownership and control of the asset are transferred back to the public authority.

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89. (D) Ultimate responsibility for public service delivery and associated risks revert to the government.
If a PPP project fails or the private partner can no longer operate the facility, the government must step in to ensure that public services continue. Since the underlying asset is providing an essential public good, the state remains the ultimate guarantor of the service. In such cases, the operational risks and the responsibility for managing the infrastructure revert back to the public authority until a new solution is found.

90. (A) P-3, Q-4, R-1, S-2
Viability Gap Funding involves specific financial limits set by the government. The central government can provide up to 20% of the project cost, and the state can add another 20%. This funding is typically disbursed during the construction phase to support the project's cash flow. To ensure efficiency, the project is awarded to the bidder who requires the lowest amount of this financial assistance from the government.

91. (B) Design-Build-Finance-Operate-Transfer (DBFOT) model.
A project where the private sector is responsible for the entire lifecycle—from design and financing to construction and 20 years of operations—is a classic example of a DBFOT model. In this case, the private partner recovers its investment through commercial activities like selling electricity. The eventual return of the plant to the municipality after the concession period distinguishes this from a permanent ownership model like BOO.

92. (B) Linking private returns to performance metrics to incentivize timely, quality execution.
PPPs aim to improve efficiency by aligning the private partner's financial success with the project's performance. If the private operator fails to meet quality standards or construction milestones, they face financial penalties or reduced returns. This performance-based structure motivates the private sector to use innovative technologies and management practices to complete the project on time and maintain high service levels throughout the contract period.

93. (A) 1, 2, and 3 only
A concession agreement defines the legal boundaries of a PPP. The private partner has the right to collect revenue and the obligation to build and maintain the asset to high standards. However, they do not have the right to change statutory urban plans, as this remains a core sovereign power of the government. This ensures that while the private sector manages the infrastructure, the public authority retains control over long-term city planning.

94. (C) Routine retail shops and private commercial malls.
Viability Gap Funding is reserved for essential public infrastructure projects that serve a broad societal need, such as water systems, waste treatment, and mass transit. Purely commercial ventures like retail shops or shopping malls are excluded from this scheme, as they are expected to be fully profitable on their own through market forces. VGF is intended to bridge the financial gap only for projects providing critical public services.

95. (B) DBFOT – Develop, Borrow, Fund, Observe, Terminate.
The acronym DBFOT stands for Design, Build, Finance, Operate, and Transfer. It represents a comprehensive project delivery model where a private partner takes on all these responsibilities. The incorrect definition provided in the question—Develop, Borrow, Fund, Observe, Terminate—does not reflect the standard engineering and operational phases of an infrastructure contract. Other acronyms like BOT, HAM, and OMT are standard and correctly defined in the industry.

96. (C) Implementation of double-entry accounting and reasonable user charges.
Under JNNURM, municipal bodies were required to reform their financial systems to become more transparent and creditworthy. Adopting double-entry accounting and setting realistic fees for services like water and waste collection were critical steps. These reforms proved to potential private partners and lenders that the municipality was managed professionally and had a stable revenue base, making it a viable partner for long-term PPP infrastructure projects.

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97. (B) An unforeseeable and unavoidable external event that prevents a party from fulfilling obligations.
Force Majeure is a legal clause that protects parties when extraordinary events beyond their control—such as natural disasters, wars, or pandemics—make it impossible to fulfill their contract. In infrastructure projects, these events can halt construction or disrupt services. By including this clause, the contract defines how these situations will be handled, preventing unfair penalties and providing a structured way to resume or terminate the agreement due to extreme circumstances.

98. (D) To prioritize debt service and operator payments before the ULB accesses the surplus.
An escrow account is a financial security tool where all project revenues are deposited and then distributed according to a pre-agreed hierarchy. This "waterfall" mechanism ensures that lenders and the private operator are paid for their services and debt first. This arrangement provides comfort to investors and banks, as it ring-fences the project's income and ensures that operational costs and loan repayments are prioritized over other municipal expenditures.

99. (A) Both A and R are true and R is the correct explanation of A.
Payment security mechanisms like escrow accounts and Letters of Credit are essential for attracting private investment into public projects. They ensure that even if the government faces a budget crisis, the funds for the project are protected and can be accessed to pay the contractor. This reduces the risk for the private partner, making them more willing to participate in long-term, high-value infrastructure contracts with the public sector.

100. (B) Statement I is incorrect and Statement II is correct.
A Risk Probability and Impact Matrix is a qualitative and quantitative tool that evaluates risks based on two factors: how likely they are to happen and how much they would damage the project if they did. It does not just look at financial costs, but also considers impacts on time, quality, and safety. This systematic approach allows project managers to prioritize the most dangerous risks and focus their mitigation efforts where they are most needed.

101. (A) In a DBFOT contract, construction risk is typically borne by the public authority.
In a DBFOT (Design-Build-Finance-Operate-Transfer) model, the primary goal is to transfer construction risk to the private partner. This means the private company is responsible for design flaws, soil conditions, and construction delays. If the project costs more than expected or takes longer to build, the private partner usually bears the additional expense. This provides a strong incentive for the private sector to complete the project efficiently and correctly.

102. (A) P-3, Q-1, R-4, S-2
Risk management involves different strategies based on the nature of the risk. "Avoiding" a risk might mean changing a project's path to stay away from a sensitive area. "Transferring" often involves buying insurance. "Mitigating" means taking steps, like extra testing, to reduce the chance of a problem. Finally, "accepting" a risk means recognizing that small issues, like minor weather delays, are inevitable and planning for them with a contingency buffer.

103. (B) Adopting a HAM model or minimum ridership payment to share the demand risk.
Ridership risk is one of the biggest challenges in transit PPPs. Since forecasts are often uncertain, many modern projects use a Hybrid Annuity Model or include government guarantees for a minimum level of income. This shares the risk between the private operator and the government, ensuring the project remains financially stable even if fewer people use the system than expected, while still providing the essential public service.

104. (C) Political risk relates to legal changes, while environmental risk relates to ecological impacts.
Political risk in infrastructure involves changes in government policy, taxes, or regulations that can hurt a project's finances. Environmental risk, on the other hand, deals with the physical impact of the project on nature or the impact of natural events on the project. While both are critical, they require different management strategies: political risk is often handled through contract clauses, while environmental risk requires scientific studies and management plans.

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105. (D) 1, 2, 3, and 4
A Risk Register is a living document that tracks every potential threat to a project. It must describe the risk, estimate its likelihood and impact, assign a specific person to manage it, and outline the plan for dealing with it. This comprehensive record ensures that risks are not forgotten and that there is clear accountability for protecting the project's success throughout its entire lifecycle, from planning through construction and operations.

106. (A) To protect investors from financial impacts caused by new legislation or tax revisions.
Infrastructure projects last for decades, during which laws and taxes will inevitably change. A 'Change in Law' clause provides a mechanism to adjust the contract if new rules significantly increase the operator's costs. This protection is essential for attracting long-term private investment, as it ensures that the project's financial viability is not destroyed by sudden legislative changes that were unpredictable at the time the contract was signed.

107. (B) Delay in Start-Up Insurance – Covers lost revenue resulting from delays due to insured perils.
Delay in Start-Up insurance is a specialized policy that protects the project's owners and lenders if a construction delay, caused by an event like a fire or flood, prevents the project from starting operations on time. This insurance covers the lost income and ongoing expenses during the delay, ensuring that the project can still meet its financial obligations and eventually recover from the setback.

108. (A) 1, 3, 4, 2
The risk management process starts with identifying potential problems. These risks are then assessed to determine which are most likely and most damaging. Once prioritized, strategies are developed and implemented to avoid, transfer, or mitigate them. Finally, the project team must continuously monitor the situation and report on any changes, as new risks may emerge or the impact of existing ones may shift as the project progresses.

109. (A) The ESF, which relies on ten standards that borrowers must meet for project approval.
The World Bank's Environmental and Social Framework consists of ten standards designed to protect people and the environment in its funded projects. These standards cover a wide range of issues, including labor conditions, pollution prevention, and community health. Borrowers must commit to meeting these standards as a condition of their loan, ensuring that global infrastructure development is sustainable, socially responsible, and minimizes harm to local communities and ecosystems.

110. (C) Construction / Technical Risk
Encountering unexpected physical conditions, such as hard rock that was not identified during early surveys, is a classic construction and technical risk. These "sub-surface" risks can cause major delays and increase costs because they require different equipment and more time to excavate. Managing this risk requires thorough geotechnical investigations before construction and clear contract terms that specify who will pay for the extra work if such conditions are found.

111. (A) Both A and R are true and R is the correct explanation of A.
Risk management is not a one-time task because the environment surrounding an infrastructure project is always changing. As a project moves from planning to construction, old risks might disappear while new ones, like labor strikes or material shortages, might emerge. Continuous monitoring allows managers to spot these changes early and update their mitigation strategies, ensuring that the project remains on track and can adapt to new challenges as they arise.

112. (B) Statement I is incorrect and Statement II is correct.
Environmental and Social risk management is much more than just paying compensation for land. It involves a long-term commitment to protecting the local environment and the well-being of the community. This is done through detailed management plans that monitor air and water quality and ensure that displaced people have their livelihoods restored. Effective management requires ongoing action throughout the project's life to ensure it remains a positive and sustainable development.

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113. (B) Implementing strict change-order controls and comprehensive engineering design mitigates overruns.
Cost overruns are best prevented by starting with a very detailed and accurate plan. By doing thorough engineering and site studies upfront, the number of surprises during construction is reduced. Additionally, having a strict process for approving any changes to the project's scope prevents the budget from growing out of control. These management practices ensure that the final cost of the project stays as close as possible to the original estimate.

114. (A) P-3, Q-1, R-2, S-4
Risks in infrastructure fall into several broad categories. Financial risks include things like interest rate changes that affect the project's debt. Environmental risks involve natural events like floods. Operational risks relate to the day-to-day management of the asset, like equipment breakdowns. Political risks involve government actions, such as canceling a toll, that directly impact the project's legal or financial status. Each requires a different type of expertise to manage.

115. (A) It is typically handled by a 'Competing Facility' clause, entitling the operator to compensation.
A 'Competing Facility' clause in a PPP contract protects a private operator's revenue if the government builds another road or bridge that draws traffic away from the project. If the government does build a competing facility, it may have to pay the operator for the lost income. This clause is essential for managing the long-term revenue risk and ensures that the government and the private partner remain aligned in their transportation planning goals.

116. (C) To ensure project risks related to environment and resettlement are avoided or mitigated.
The primary goal of the ADB's Safeguard Policy Statement is to ensure that its projects do no harm to the environment or the local population. It requires thorough assessments of potential impacts before a project is approved and mandates specific plans to avoid or minimize these effects. This policy ensures that the development benefits are inclusive and that the rights of affected communities and the integrity of the ecosystem are protected.

117. (A) 1, 2, and 4 only
An escrow account is a specialized financial tool that manages project cash flows to ensure that debt is paid and operations continue. While it is a powerful way to manage financial risk and provides great comfort to lenders, it has no effect on the physical construction of the project itself. Construction risks, like engineering delays or site accidents, must be managed through other means, such as technical oversight and insurance.

118. (D) Contractor inability to secure a loan due to poor internal corporate credit ratings.
Force Majeure is only for massive, external, and unpredictable events like extreme natural disasters or wars. A contractor's internal financial problems or their failure to get a loan are considered standard business risks, not Force Majeure events. The contractor is responsible for their own financial health and creditworthiness. Using Force Majeure to cover such failures would be a misuse of the clause and would not be accepted in a legal contract.

119. (B) Detailed Engineering Design Risk – Decommissioning Phase.
Engineering design risks must be managed during the very early planning and pre-construction phases of a project. If there is a mistake in the design, it will cause problems during construction or operation, not just when the project is being taken down (decommissioning) at the end of its life. Identifying risks in the correct phase—such as land issues early on and traffic issues once the project opens—is essential for effective management.

120. (C) It systematically tracks risks and assigns accountability to keep mitigation responses effective.
The true value of a dynamic Risk Register is that it keeps the project team focused on preventing problems before they happen. By regularly updating the list and assigning every risk to a specific owner, the project ensures that someone is always responsible for monitoring and mitigating threats. This systematic approach turns risk management from a theoretical exercise into a practical, everyday tool that directly supports the successful completion of the infrastructure project.

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that the project design is based on accurate, verified data, preventing the risk of building expensive infrastructure that may eventually run dry due to inadequate supply.

73. (D) To leverage private sector efficiencies while transferring risks to the best-equipped party.
The core rationale for PPPs is not just to secure private funding, but to improve service delivery through private sector innovation and management. This model allows the government to share the risks of construction, operation, and maintenance with a private partner who may be better at handling them. This synergy aims to provide better quality public services more efficiently than the government could do alone.

74. (A) Public-Private Partnership (PPP).
Both bike sharing and smart parking systems in Madhya Pradesh are implemented through PPP models. Under this strategy, private companies are contracted to invest in equipment and technology and manage the daily operations, while the city provides the space and regulatory framework. This allows municipal bodies to introduce modern, tech-driven services without bearing the full burden of capital investment or specialized operational management.

75. (C) A is true but R is false.
In a BOT (Toll) model, the private company takes the risk of how much traffic will use the road, as their income depends on toll collections. If traffic is low, the company earns less. Conversely, fixed annuity payments are characteristic of a BOT (Annuity) model, where the government pays a set amount regardless of traffic. Therefore, the reason provided is incorrect because it describes a different PPP model than the one mentioned.

76. (C) Both Statement I and Statement II are correct.
Viability Gap Funding is a strategic tool used to make essential infrastructure projects financially attractive to the private sector. It provides a one-time grant to projects that are economically necessary but cannot generate enough revenue to be profitable on their own. To ensure transparency and fairness, this funding is only available for projects where the private partner is selected through an open, competitive bidding process.

77. (A) It funds greenfield projects with high construction risks and no current revenue.
Infrastructure Investment Trusts are primarily designed to hold operational, revenue-generating assets rather than high-risk greenfield projects. They allow developers to transfer finished projects into the trust, receiving capital in return that can be used for new developments. This mechanism provides investors with a relatively safe, steady return from existing cash flows, such as tolls or utility fees, while helping to recycle capital within the infrastructure sector.

78. (A) P-3, Q-4, R-1, S-2
PPP modalities vary based on ownership and payment structures. BOT and BOOT models involve building and operating assets, with BOOT allowing private ownership during the concession. The Hybrid Annuity Model combines upfront government payments with later annuities. OMT focuses on the management of existing assets. Each model is chosen based on the specific project's risk profile and the public authority's financial and operational objectives.

79. (D) Risks should be allocated to the party best able to assess, control, and manage them.
The fundamental principle of risk allocation in PPPs is to assign each risk to the party that can handle it most effectively at the lowest cost. For example, construction risks are usually borne by the private partner, while political and regulatory risks stay with the government. This logical distribution minimizes the overall project risk and cost, ensuring a more stable and efficient partnership for public service delivery.

80. (C) Key Performance Indicators (KPIs) and Service Level Agreements.
KPIs and Service Level Agreements are the primary tools in a concession agreement that define the expected quality of service. They set measurable targets for the private partner, such as water quality standards or road maintenance levels. By linking payments or penalties to these benchmarks, the public authority ensures that the private operator maintains high standards throughout the life of the contract, protecting the public interest.

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(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

8. Which of the following statements about the "Mobilisation and site preparation phase" is INCORRECT?
(A) It marks the final transfer of the asset to the operations and maintenance team.
(B) It involves securing necessary environmental and local clearances before major civil works begin.
(C) It includes the establishment of site offices, labour camps, and material storage yards.
(D) It requires conducting preliminary soil testing and site surveys.

9. During the implementation of an elevated corridor project, unforeseen underground utilities require a major shift in the piling alignment, threatening cost overruns. Which management approach is best suited to formally integrate these changes while maintaining project viability?
(A) Predictive phasing of project tasks
(B) Adaptive management and mid-course correction
(C) Laissez-faire administrative management
(D) Single-source procurement modification

10. Consider the following Assertion (A) and Reason (R) regarding urban infrastructure projects:
Assertion (A): Spatial phasing is critical in large-scale urban infrastructure projects such as a city-wide BRTS network.
Reason (R): It allows for the sequential development of specific geographic corridors, minimizing simultaneous traffic disruption across the entire city.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

11. Which of the following is NOT a standard component of construction supervision and quality control?
(A) Drafting the initial project feasibility report
(B) Approval of contractor's shop drawings
(C) Routine material testing at certified laboratories
(D) Monitoring adherence to health and safety protocols

12. Which of the following best describes the "Commissioning" procedure in a newly constructed urban water supply project?
(A) The legal process of land acquisition prior to construction
(B) The physical barricading of the site for safety purposes
(C) The process of ensuring systems operate per requirements
(D) The financial auditing of the project after one year

13. Identify the correct pair regarding project phasing rationale:
(A) Financial phasing – Allocating implementation based on geographical zones
(B) Spatial phasing – Releasing funds in tranches based on utilization certificates
(C) Temporal phasing – Procuring materials strictly from single-source vendors
(D) Technical phasing – Sequencing works so that prerequisite engineering tasks precede subsequent dependent tasks

14. Match the procurement strategies in List I with their characteristics in List II:
List I: Procurement Strategy
P. Single Source Selection
Q. Limited Tender
R. National Competitive Bidding (NCB)
S. International Competitive Bidding (ICB)
List II: Characteristic
1. Open to domestic firms only, ensuring local compliance
2. Restricted to a pre-identified list of qualified suppliers
3. Contract awarded to one specific firm without competition due to proprietary nature
4. Mandated for large-scale EAPs to attract global expertise
(A) P-2, Q-3, R-1, S-4
(B) P-3, Q-1, R-2, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-1, Q-2, R-4, S-3

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45. Which of the following statements correctly describes the funding flow for the Pradhan Mantri Awas Yojana - Urban (PMAY-U)?
(A) It is 100% funded by the World Bank.
(B) It is entirely funded through property tax collections of the local body.
(C) Only the Central Government and private developers share the cost.
(D) Funding is shared between Central, State, and local body/Beneficiary.

46. Arrange the typical sequence of the flow of scheme funds from the Central Government to a project execution level:
1. Release of Central Share to State Nodal Account
2. Budgetary allocation by Central Ministry
3. Transfer to the local body / Executing Agency account
4. Addition of State Matching Share

(A) 2, 1, 4, 3
(B) 1, 2, 3, 4
(C) 2, 4, 1, 3
(D) 4, 1, 2, 3

47. Which mission explicitly provides funding for integrated infrastructure development in clusters where rural areas are transitioning into urban areas?
(A) Shyama Prasad Mukherji RURBAN Mission
(B) HRIDAY
(C) PM Gati Shakti
(D) JICA rapid transit fund

48. Consider the following statements regarding the finances of Special Purpose Vehicles (SPVs) under the Smart Cities Mission:
1. SPVs receive equal matching grants from the Central and State Governments.
2. SPVs are strictly prohibited from raising funds through municipal bonds.
3. SPVs can generate revenue through value capture financing mechanisms in Area Based Development (ABD) areas.
4. SPVs operate as limited companies under the Companies Act.

Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

49. Under the recommendations of a State Finance Commission, the devolution of funds to Urban Local Bodies is primarily intended to:
(A) Supplement local body resources for basic services and plans
(B) Fully fund the operations of the State Police force
(C) Finance national highways passing through the state
(D) Subsidize international air travel for city officials

50. Consider the following Assertion (A) and Reason (R) regarding Urban Local Body (ULB) finances:
Assertion (A): Urban Local Bodies (ULBs) often rely on State budget allocations and Central grants for major capital expenditure projects.
Reason (R): The internal revenue generation of many ULBs is generally insufficient to independently finance large-scale infrastructure like centralized sewage treatment plants.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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51. Which of the following is NOT a typical funding source managed by an Urban Development Department for planning projects?
(A) Urban Infrastructure Development Fund
(B) State Cooperative Bank Agricultural Loan Fund
(C) Chief Minister Urban Infrastructure Development Scheme
(D) National Mission State Matching Share

52. Consider the following statements regarding Externally Aided Projects (EAPs) in urban development:
Statement I: International agencies like JICA provide funding for various urban water supply and sewerage projects.
Statement II: EAPs never require any counterpart funding or matching share from the State Government.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II

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the city.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

23. Which of the following statements is correct regarding MIS-based monitoring systems in urban development projects?
(A) They completely eliminate the need for any physical site inspections.
(B) They are exclusively used for maintaining payroll records of municipal staff.
(C) They prevent third-party inspection agencies from accessing project data.
(D) They provide remote dashboards for tracking project progress.

24. Match the evaluation types in List I with their primary purposes in List II:
List I: Evaluation Type
P. Concurrent evaluation
Q. Mid-term evaluation
R. End-line evaluation
S. Impact assessment
List II: Primary Purpose
1. Conducted halfway through project implementation to trigger mid-course corrections
2. Assesses long-term, broader socio-economic or environmental changes post-completion
3. Ongoing, real-time assessment parallel to project execution
4. Conducted immediately upon project completion to assess if initial objectives were met
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-4, Q-1, R-3, S-2

25. Which specific technology is commonly used for monitoring the construction progress of housing units in social schemes to verify progress before releasing fund installments?
(A) Drone-based LiDAR scanning
(B) Mobile app-based Geotagging with time-stamped photographs
(C) Blockchain tokenization
(D) Ground Penetrating Radar

26. Arrange the following steps of a comprehensive monitoring and evaluation framework cycle in the correct chronological order:
1. Mid-term evaluation
2. Establishing baselines
3. Impact assessment
4. Concurrent process monitoring
5. End-line evaluation
(A) 2, 4, 1, 5, 3
(B) 2, 1, 4, 3, 5
(C) 4, 2, 1, 5, 3
(D) 2, 4, 5, 1, 3

27. During a site inspection for a water supply project, the physical verification reveals that pipe laying has stopped due to a delayed land clearance, though the MIS shows it as 'in progress'. What does this scenario highlight?
(A) The need for combining MIS with ground truthing and inspection
(B) The redundancy of field verification in digital project monitoring
(C) The inherent flaw in the original Logframe planning matrix
(D) The failure of the end-line evaluation to detect construction delays

28. Consider the following statements regarding Third-Party Inspection Agencies (TPIAs) in urban infrastructure projects:
1. They provide an independent, unbiased assessment of construction quality.
2. They are generally subordinate to the primary contractor executing the project.
3. Their reports are often prerequisites for releasing progressive payments.
4. They strictly evaluate only financial expenditures, not physical progress.
Which of the statements given above are correct?
(A) 1 and 2
(B) 1 and 3
(C) 2 and 4
(D) 1, 3 and 4

29. The National Urban Observatory (NUO) is primarily mandated to:
(A) Act as an exclusive funding agency for Smart Cities
(B) Serve as a real estate regulatory authority for union territories
(C) Design architectural blueprints for

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residential houses
(D) Host urban data for evidence-based planning and monitoring

30. Consider the following Assertion (A) and Reason (R) regarding Integrated MIS platforms:
Assertion (A): Integrated MIS platforms require mandatory input of physical and financial progress by local bodies.
Reason (R): Integrated MIS platforms standardize monitoring parameters, ensuring transparency and facilitating comparative analysis across different regions.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

31. Which of the following is NOT typically considered a valid indicator for process monitoring?
(A) Number of site meetings held per month
(B) Traffic reduction levels five years after project completion
(C) Percentage of funds disbursed to the contractor
(D) Timely submission of quality control test reports

32. What is the primary reason for conducting an end-line evaluation in urban development schemes?
(A) To establish the baseline demographic data
(B) To determine the day-to-day attendance of the construction workforce
(C) To evaluate the tendering strategies used during procurement
(D) To assess if objectives were met upon project completion

33. Identify the correct pair regarding monitoring and evaluation terms:
(A) Geotagging – Appending geographical coordinates to digital media for asset verification
(B) Concurrent evaluation – Assessment conducted 10 years after project completion
(C) Outcome indicator – The physical volume of cement used in construction
(D) Baselines – Targets set for the final year of the project

34. Which of the following statements about mid-term evaluations is INCORRECT?
(A) They evaluate if the project is on track to achieve its intended objectives.
(B) They provide an opportunity for adaptive management and mid-course corrections.
(C) They are solely focused on punishing the contractor for delays without proposing solutions.
(D) They analyze both physical progress and financial utilization up to the mid-point.

35. A planner is tasked with formulating the monitoring and evaluation framework for a new solid waste processing plant. Which of the following represents an "Outcome Indicator" for this project?
(A) Percentage increase in waste recycled and diverted from landfills
(B) Number of waste processing machines procured for the facility
(C) Amount of money spent on city-wide awareness campaigns
(D) Number of workers hired for the plant operations

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36. Consider the following statements regarding Asset Geotagging in national urban missions:
Statement I: Geotagging is used for individual household facilities to prevent duplication of subsidies.
Statement II: Geotagging acts as a spatial monitoring tool that maps physical progress directly onto a GIS platform.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

37. If an urban scheme's goal is to increase household water connections, which monitoring approach directly verifies the operational status of these connections?
(A) Reviewing the procurement contract for PVC pipes
(B) Field verification of households actually receiving water

(C) Tracking the daily wages of the plumbing staff
(D) Analyzing historical census baseline data

38. Consider the following statements regarding the role of Third-Party Inspection Agencies (TPIAs):
1. TPIAs ensure quality control independent of the local body and the executing contractor.
2. TPIAs typically conduct material testing and check structural dimensions against approved drawings.
3. TPIA certification is often mandatory for the financial closure of civil work bills.
4. TPIAs have the authority to completely cancel national budget allocations.

Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 2, 3 and 4
(C) 1, 3 and 4
(D) 1, 2, 3 and 4

39. What is the core function of an "Output Indicator" in the Logframe matrix?
(A) To measure the long-term economic growth of the city
(B) To record the historical climate data of the project site
(C) To detail specific contract clauses
(D) To quantify immediate deliverables produced by activities

40. Consider the following Assertion (A) and Reason (R) regarding project data verification:
Assertion (A): Relying solely on MIS data without site inspections can lead to inaccurate reporting of assets in urban projects.
Reason (R): MIS dashboards reflect data entered by users, which might not accurately capture poor construction quality or falsified progress on the ground.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

41. Which of the following best defines "Outcome monitoring"?
(A) Tracking the procurement of raw materials
(B) Measuring project effects on target beneficiaries
(C) Monitoring the daily financial transactions of the implementing agency
(D) Documenting the environmental clearance process

42. Identify the INCORRECT pair regarding monitoring tools and their functions:
(A) Baselines – Initial data against which progress is compared
(B) Target – The intended objective to be reached by a specific timeframe
(C) Dashboard – A visual interface displaying key performance indicators
(D) Impact Indicator – Number of bricks purchased for construction

43. What is the primary role of an Urban Infrastructure Development Fund (UIDF) at the state level?
(A) To provide financial assistance for local body infrastructure projects
(B) To fund agricultural subsidies for rural small-scale farmers
(C) To regulate the real estate market in rural districts
(D) To manage the central government's direct tax collection

44. Match the funding mechanisms/schemes in List I with their contexts in List II:
List I: Funding Mechanism/Scheme
P. AMRUT 2.0
Q. Smart Cities Mission
R. PMAY-U
S. NABARD RIDF
List II: Context
1. Employs a Special Purpose Vehicle (SPV) for managing city-level funds
2. Provides central assistance for beneficiary-led housing construction
3. Focuses heavily on achieving universal coverage of water supply
4. Primarily provides loans for rural and semi-urban infrastructure projects
(A) P-1, Q-3, R-2, S-4
(B) P-3, Q-2, R-1, S-4
(C) P-3, Q-1, R-2, S-4
(D) P-2, Q-1, R-4, S-3

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(C) P-3, Q-4, R-2, S-1
(D) P-1, Q-2, R-3, S-4

75. What represents the most critical lesson learned from the implementation of dedicated Bus Rapid Transit Systems (BRTS) for future transit projects?
(A) Public transit cannot succeed without 100% central funding.
(B) Success requires dedicated right-of-way and integrated services.
(C) Transit systems should only be built on peripheral ring roads.
(D) Open, mixed-traffic bus lanes are more efficient than closed systems.

76. Identify the correct pair regarding urban planning components:
(A) Integrated Command and Control Centre (ICCC) – Smart City Governance
(B) Catchment Area Treatment – Metro Rail Construction
(C) Bio-mining of legacy waste – Waterfront Recreational Planning
(D) Heritage Ghat Development – Industrial Corridor Planning

77. Which of the following would be classified as a "Pan-city solution" under modern urban missions?
(A) City-wide Intelligent Traffic Management System (ITMS) installation
(B) Redeveloping a specific 50-acre slum into a housing complex
(C) Conserving a single historical monument
(D) Constructing a neighborhood park in one municipal ward

78. Consider the following statements regarding urban lake conservation projects:
1. They aim at preserving the water quality of significant wetlands.
2. They involve the demarcation of buffer zones restricting new construction.
3. They encourage the establishment of heavy chemical industries on the banks.
4. They involve sewage interception and diversion to prevent untreated discharge.

Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

79. In the context of urban planning and development missions, what does the term 'ABD' officially stand for?
(A) Area Based Development
(B) Annual Budget Deficit
(C) Aggregated Building Demolition
(D) Artificial Base Design

80. Consider the following Assertion (A) and Reason (R) regarding industrial area planning:
Assertion (A): The planning of industrial areas requires a strong emphasis on freight logistics and heavy vehicular movement.
Reason (R): Industrial areas generate high volumes of raw material import and finished goods export.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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81. Consider the following statements regarding water supply projects:
Statement I: The primary objective is to ensure every household has access to a tap with an assured supply of water.
Statement II: Modern schemes actively discourage the use of SCADA (Supervisory Control and Data Acquisition) systems.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

82. Identify the INCORRECT pair regarding projects and their focus areas:
(A) Housing Board Schemes – Luxury farmhouse development for high-income groups only
(B) Solid Waste Management – Achieving garbage-free status and high star ratings
(C) Waterfront Development – Recreational and environmental planning
(D) BRTS – Providing a dedicated high-capacity public transport corridor

(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

53. What is a key role of a State Cooperative Housing Finance Society in urban development?
(A) Providing credit for affordable housing construction
(B) Regulating the Master Plans of major cities
(C) Executing metro rail projects
(D) Managing solid waste dumping sites

54. Match the funding share components in List I with their contributing entities in List II:
List I: Funding Share Component
P. Central Share
Q. State Matching Share
R. Local body / Implementing Agency Share
S. Beneficiary Share
List II: Contributing Entity
1. Contributed by the specific individual receiving a housing subsidy
2. Released directly by the Central Ministry
3. Released from the State Finance Department budget
4. Contributed from the municipal internal funds or loans
(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-2, Q-4, R-3, S-1
(D) P-1, Q-2, R-3, S-4

55. Under urban rejuvenation schemes, if a city requires funding for rejuvenating a local water body, how is the city-wise allocation typically prioritized?
(A) Based solely on alphabetical order of city names
(B) Based on City Water Balance Plans and state priorities
(C) Based entirely on the availability of single-source international contractors
(D) By an open lottery system conducted by the local body

56. Which of the following statements about the Swachh Bharat Mission (Urban) funding mechanism is INCORRECT?
(A) It involves central assistance for components like Solid Waste Management and household toilets.
(B) The entire cost of the mission is borne 100% by international donor agencies.
(C) It requires the State Government to contribute a matching share.
(D) Funds are released based on utilization certificates and achieving specific milestones.

57. Identify the correct pair regarding departmental schemes and their domains:
(A) Urban Infrastructure Development Scheme – City roads, drains, and civic amenities
(B) Public Clinic Schemes – Urban transportation
(C) Real Estate Regulatory Authority – Agricultural land acquisition
(D) Water Rejuvenation Schemes – Rural broadband connectivity

58. Consider the following statements regarding the funding for metro rail projects:
1. They are often jointly funded by the Central and State Governments on a 50:50 equity basis.
2. They utilize financial assistance from bilateral/multilateral agencies.
3. The local bodies bear 100% of the operational losses from property tax revenue.
4. A Special Purpose Vehicle (SPV) typically manages the project finances.
Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

59. In the context of Special Purpose Vehicles (SPVs) for urban projects, the financial principle of "ring-fencing" implies:
(A) Enclosing the project site with physical barricades
(B) Protecting project funds from general municipal expenditures
(C) Investing all project funds into the stock market
(D) Returning unutilized funds immediately to the donor agency

60. Consider the following Assertion (A) and Reason (R) regarding housing assistance:
Assertion (A): Beneficiary Led Construction (BLC) is a widely adopted model under housing

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schemes for the urban poor.
Reason (R): It allows beneficiaries who own land to build or enhance their houses with direct financial assistance transferred to their bank accounts.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

61. What does the term "Fiscal Devolution" mean in the context of state finance commissions and local bodies?
(A) Statutory transfer of state tax revenues to local bodies
(B) The centralizing of all municipal taxes to the State Treasury
(C) The privatization of municipal water supply
(D) The auditing of Special Purpose Vehicles by an external authority

62. In high-ridership public transit models like the BRTS, which of the following is a recognized operational outcome for success?
(A) Relying entirely on free ridership without any ticket revenue
(B) Dismantling the system after five years due to a lack of public acceptance
(C) Achieving high efficiency through a closed-system corridor
(D) Exclusively utilizing underground tunnels for operation

63. Consider the following statements regarding urban metro rail alignments:
Statement I: Project alignments may include both elevated and underground sections to navigate densely populated urban areas.
Statement II: Priority corridors are often established to connect major institutional hubs to residential areas.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

64. Match the urban projects in List I with their key features in List II:
List I: Urban Project
P. Urban Solid Waste Management
Q. Heritage and Large-scale Event Planning
R. Wetland and Lake Conservation
S. Industrial Area Planning
List II: Key Feature
1. Catchment area protection and desilting of designated sites
2. Focuses on crowd management, temporary infrastructure, and ghat development
3. Planning framework designed around industrial corridors and logistics
4. Achieving 100% door-to-door collection and waste-to-energy models
(A) P-4, Q-2, R-1, S-3
(B) P-4, Q-1, R-2, S-3
(C) P-2, Q-4, R-1, S-3
(D) P-1, Q-2, R-3, S-4

65. Which of the following statements correctly describes the Area Based Development (ABD) model in smart city projects?
(A) Redevelopment of a specific urban area with integrated smart systems
(B) Spreading small funds equally across all wards of the city simultaneously
(C) Focusing solely on installing CCTV cameras at traffic intersections
(D) Shifting the entire city population to a new greenfield site

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66. Arrange the implementation stages of a successful solid waste management model in their logical, chronological sequence:
1. Achieving 100% door-to-door waste collection
2. Establishing centralized processing plants
3. Source segregation of waste into wet, dry, and hazardous categories
4. Elimination of open dumping and legacy waste treatment
(A) 3, 1, 2, 4
(B) 1, 2, 3, 4
(C) 1, 3, 2, 4
(D) 4, 1, 3, 2

67. Which of the following is NOT typically a factor in the success of municipal solid waste management?
(A) Complete privatization of the municipal administrative wing

(B) Strict enforcement of source segregation by residents
(C) Route optimization and GPS tracking of collection vehicles
(D) Elimination of secondary garbage bins from city streets

68. Consider the following statements regarding heritage and event planning in historic cities:
1. It involves spatial planning for temporary townships with water and sanitation.
2. It involves the permanent halting of all commercial activities in the city.
3. Traffic management and pedestrian flow mapping are critical components.
4. Permanent heritage conservation is integrated with event preparations.

Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2, 3 and 4

69. How does waterfront planning and lakefront development functionally benefit the urban environment?
(A) By draining the water body to create new real estate parcels
(B) By combining public recreation with water body conservation
(C) By converting the waterfront strictly into a heavy industrial zone
(D) By acting as the primary dumping ground for city waste

70. Consider the following Assertion (A) and Reason (R) regarding water supply projects:
Assertion (A): Modern water supply projects emphasize the reduction of Non-Revenue Water (NRW).
Reason (R): High NRW indicates significant physical leakages and unbilled consumption, which undermines the financial sustainability of the water utility.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

71. A planner notes that affordable housing schemes often adopt a mixed-income group strategy in their townships. What is the primary socio-economic rationale for this?
(A) Cross-subsidizing lower-income housing through higher-income unit surpluses
(B) To strictly segregate communities based on income
(C) To prevent the construction of high-rise buildings
(D) To ensure all houses remain unallocated to create artificial scarcity

72. Which of the following statements about industrial corridor planning is INCORRECT?
(A) They lack any highway connectivity to national networks.
(B) They are designed to act as major nodes for manufacturing industries.
(C) They incorporate specific zones for Special Economic Zones (SEZs).
(D) They require coordinated spatial planning between industrial and local town planning authorities.

73. Which city revitalization scheme focuses on civic infrastructure around heritage sites to improve the visitor experience and preserve cultural assets?
(A) HRIDAY
(B) AMRUT
(C) SBM-U
(D) PMAY-U

74. Match the urban project types in List I with their associated urban concepts in List II:
List I: Project Type
P. Metro Rail
Q. Smart City Pan-city Solutions
R. Heritage Urban Regeneration
S. Industrial Area Planning
List II: Urban Concept
1. Industrial corridor and logistics hub
2. Integrated Command and Control Centre (ICCC) for IT-enabled governance
3. Mass Rapid Transit System (MRTS) to alleviate congestion
4. Pedestrianization and conservation-led development
(A) P-2, Q-3, R-1, S-4
(B) P-3, Q-2, R-4, S-1

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15. In complex urban projects, which competency is most directly associated with effectively managing a "Handover and O&M transition"?
(A) Formulating the initial environmental impact assessment
(B) Preparing as-built drawings and operation manuals
(C) Calculating the internal rate of return for funding
(D) Demolishing existing encroachments on the project site

16. In the context of project tracking, which statement accurately reflects the utility of a Gantt chart?
(A) It provides a detailed financial audit trail for single-source procurement.
(B) It explicitly identifies the geographical coordinates of constructed assets.
(C) It calculates the economic internal rate of return for project viability.
(D) It visually maps activities against a horizontal time scale to track progress.

17. Identify the INCORRECT pair regarding project planning tools:
(A) Logframe – Establishes a hierarchical baseline for asset geotagging only
(B) WBS – Decomposes project scope into manageable deliverables
(C) PERT – Utilizes optimistic, pessimistic, and most likely time estimates
(D) CPM – Identifies the longest path of dependent activities to determine project duration

18. Consider the following statements regarding the rationale for project phasing:
1. Financial phasing aligns project execution with the sequential availability of budgetary funds.
2. Technical phasing ensures that independent tasks are delayed until all project funds are received.
3. Spatial phasing breaks down a city-wide project into manageable geographic zones.
4. Proper phasing can help in risk mitigation and allows for mid-course corrections.

Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2, 3 and 4

19. A Town Planner is finalizing the procurement strategy for a highly specialized, patented smart traffic signaling system available from only one manufacturer globally. Which strategy is most applicable?
(A) Single Source Selection
(B) National Competitive Bidding
(C) Open Public Tender
(D) Limited Tender among all electrical contractors

20. Consider the following Assertion (A) and Reason (R) regarding monitoring and evaluation frameworks:
Assertion (A): Establishing baseline indicators is an indispensable first step in the M&E framework of any urban development scheme.
Reason (R): Baselines provide a reference point against which future progress, outputs, and outcomes of the project can be measured and evaluated.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

21. What is the defining characteristic of "Process Monitoring" in an urban project?
(A) It assesses the long-term socioeconomic changes in the target population.
(B) It tracks implementation activities, resources, and timelines.
(C) It is conducted exclusively by third-party international agencies after completion.
(D) It measures the final delivery of constructed housing units to beneficiaries.

22. Consider the following statements regarding monitoring and evaluation indicators:
Statement I: Output indicators measure the immediate physical or tangible deliverables of a project, such as the number of water meters installed.
Statement II: Impact indicators measure the broader, long-term developmental changes, such as the reduction in waterborne diseases in

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83. In which year was the PM Gati Shakti National Master Plan formally launched to coordinate infrastructure development?
(A) 2014
(B) 2019
(C) 2021
(D) 2023

84. Match the PM Gati Shakti engines in List I with their primary focus sectors in List II:
List I: PM Gati Shakti Engine
P. Roads
Q. Mass Transport
R. Ports
S. Logistics Infrastructure
List II: Focus Sector
1. Metro rail systems and urban mobility corridors
2. Multimodal logistics parks and warehousing zones
3. Coastal shipping and cargo handling
4. National highway network and connectivity projects
(A) P-4, Q-1, R-3, S-2
(B) P-1, Q-4, R-3, S-2
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-1, R-4, S-2

85. Which of the following statements correctly describes the integration approach of the PM Gati Shakti Master Plan?
(A) It unifies infrastructure schemes of multiple ministries on one digital platform.
(B) It strictly isolates the planning of railways from the planning of roadways.
(C) It shifts all infrastructure planning exclusively to private multinational corporations.
(D) It focuses only on rural agricultural infrastructure, excluding urban transport.

86. Arrange the logical sequence of steps for identifying and resolving an infrastructure gap using a GIS-based platform:
1. Identifying physical clashes between proposed and existing infrastructure
2. Mapping the proposed project alignment on the digital portal
3. Overlaying existing infrastructure layers of various departments
4. Modifying the alignment or design to ensure integrated development
(A) 3, 2, 1, 4
(B) 2, 3, 1, 4
(C) 1, 2, 3, 4
(D) 2, 1, 3, 4

87. Which of the following is NOT typically a data layer available on a National Infrastructure Mapping platform?
(A) Individual citizen bank account details
(B) Forest and wildlife sanctuary boundaries
(C) Existing optical fibre cable networks
(D) Existing railway lines and proposed alignments

88. Consider the following objectives regarding multimodal connectivity in infrastructure planning:
1. To reduce logistics costs to global standards.
2. To ensure seamless movement of goods across different modes of transport.
3. To mandate that all goods travel only via roadways.
4. To provide last-mile integration for industrial and economic zones.
Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

89. What is the core planning concept behind "Last-mile integration"?
(A) Connecting economic zones efficiently to main transport arteries
(B) Connecting major cities only via air travel
(C) Building residential societies at the very edge of municipal limits
(D) Stopping transport projects one mile before they reach a city

90. Consider the following Assertion (A) and Reason (R) regarding the use of GIS platforms in master planning:
Assertion (A): Urban Town Planning departments must interface with integrated GIS platforms when designing new city master plans.
Reason (R): Master plans need to align city-level road networks with national economic corridors to avoid spatial conflicts.

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(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

91. The National Logistics Policy aims to:
(A) Create an integrated, efficient, and sustainable logistics ecosystem
(B) Increase the cost of logistics to generate higher tax revenues
(C) Ban the use of railways for freight transport
(D) Restrict logistics operations to state-owned enterprises only

92. What is the primary advantage of identifying "Infrastructure gaps" through a coordinated framework?
(A) It allows departments to block each other's funding.
(B) It highlights missing links to enable prioritized investments.
(C) It helps in widening the digital divide between states.
(D) It encourages redundant infrastructure building.

93. Consider the following statements regarding the institutional framework for infrastructure coordination:
Statement I: State governments set up Empowered Groups of Secretaries and dedicated coordination cells.
Statement II: These cells are responsible for incorporating state-specific infrastructure data into national GIS platforms.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

94. Match the infrastructure coordination elements in List I with their descriptions in List II:
List I: Coordination Element
P. GIS-based Digital Mapping
Q. Infrastructure Engines
R. Real-time updates
S. Silo-breaking
List II: Description
1. The core philosophy of preventing departments from working in isolation
2. The technological platform used for integrated spatial planning
3. Ensuring the portal reflects the latest physical progress dynamically
4. Key infrastructure sectors driving economic growth
(A) P-2, Q-4, R-3, S-1
(B) P-4, Q-2, R-1, S-3
(C) P-2, Q-1, R-4, S-3
(D) P-1, Q-4, R-3, S-2

95. Which of the following statements about integrated digital infrastructure platforms is INCORRECT?
(A) They provide a bird's-eye view of all infrastructure projects.
(B) They facilitate cross-sectoral decision-making.
(C) They rely entirely on static paper maps updated once a decade.
(D) They host multiple geographic data layers for planning.

96. A planner is tasked with developing a new industrial corridor using integrated planning principles. Which action represents a correct application of these principles?
(A) Using GIS to align the corridor with highway, power, and gas grids
(B) Planning plots without considering access to nearest railway terminals
(C) Designing the corridor exclusively for passenger car movement
(D) Keeping project details hidden from other utility departments

97. How do modern infrastructure initiatives attempt to reduce time overruns in project implementation?
(A) Streamlining clearances by providing visibility of utility networks
(B) By bypassing mandatory environmental and forest laws
(C) By removing all quality control requirements during construction
(D) By penalizing contractors immediately upon project announcement

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98. Consider the following features regarding the engines of integrated infrastructure planning:
1. They include Roads, Railways, Airports, Ports, Mass Transport, Waterways, and Logistics.
2. They are planned in complete isolation from one another.
3. They are supported by roles in Energy Transmission and IT Communication.
4. All engines are mapped spatially on a unified platform.

Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

99. The National Logistics Policy aims to reduce logistics costs in the economy to approximately:
(A) Single digits (approx. 8-9%) comparable to global benchmarks
(B) 18-20%
(C) 0% by subsidizing all transport
(D) 25% by taxing freight movement

100. Consider the following Assertion (A) and Reason (R) regarding governance initiatives:
Assertion (A): Integrated infrastructure planning is described as a "Silo-breaking" initiative in governance.
Reason (R): Historically, individual departments planned infrastructure independently, leading to inefficiencies like digging up new roads to lay utility cables.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

101. Identify the correct pair regarding integrated urban planning:
(A) Transit Oriented Development – Synergizing growth along mass transport corridors
(B) Comprehensive Mobility Plan – Designed to disconnect urban centers from national highways
(C) Multi-Modal Logistics Parks – Exclusive residential zones within cities
(D) Industrial Corridor Planning – Promoting unorganized roadside manufacturing

102. Identify the INCORRECT pair regarding infrastructure sectors:
(A) Waterways – Inland vessel movement for bulk cargo
(B) Airports – Real estate pricing regulation in urban centers
(C) Ports – Export-Import (EXIM) cargo gateways
(D) Mass Transport – Metro rail and rapid transit integration

103. Consider the following statements regarding Multimodal Logistics Parks (MMLPs):
Statement I: MMLPs are developed to facilitate seamless inter-modal freight transfer, warehousing, and value-added services.
Statement II: MMLPs aim to integrate highway networks with dedicated freight corridors.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

104. Match the logistics and connectivity terms in List I with their roles in List II:
List I: Logistics & Connectivity Term
P. End-to-end connectivity
Q. Inter-ministerial coordination
R. Asset monetization
S. GIS Data layers
List II: Role
1. Using spatial mapping to visualize terrain, utilities, and land use
2. Ensuring cargo reaches the destination from the origin without bottlenecks
3. Groups resolving disputes and aligning plans between departments
4. Leveraging existing built infrastructure to generate funds for new projects
(A) P-2, Q-3, R-4, S-1
(B) P-3, Q-2, R-1, S-4
(C) P-1, Q-3, R-4, S-2
(D) P-2, Q-4, R-3, S-1

105. When a local body is planning a major ring road, which action is considered essential during the project report preparation phase according to integrated planning guidelines?

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(A) Checking a coordination portal for utility or rail intersections
(B) Using manual paper surveys without any digital mapping
(C) Restricting the road to two-wheelers only
(D) Seeking clearance from the United Nations

106. Which of the following is NOT a targeted outcome of the National Logistics Policy?
(A) Improving the ranking in the Logistics Performance Index (LPI)
(B) Creating a data-driven decision support mechanism for an efficient ecosystem
(C) Eliminating all private sector participation in the transport sector
(D) Reducing turnaround times at major freight nodes

107. What is the most significant benefit of having "Real-time updates" on a digital infrastructure platform?
(A) Dynamic monitoring for prompt bottleneck resolution and management
(B) Automated payment of all contractor bills
(C) Direct calculation of municipal property taxes
(D) Provision of free Wi-Fi to citizens near project sites

108. Consider the following statements regarding the implementation of integrated planning at the state level:
1. States establish master plan portals integrated with the national portal.
2. Platforms are used to identify land parcels for industrial areas without utility clashes.
3. Platforms strictly prohibit the inclusion of state highway data.
4. Initiatives mandate capacity building of town planners in GIS tools.

Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

109. Which of the following correctly represents the concept of "Infrastructure Gap Identification"?
(A) Identifying missing links to connect industrial hubs to transport lines
(B) Counting the number of potholes on an existing municipal road
(C) Measuring the gap between two metro pillars
(D) Calculating the financial deficit in a municipal budget

110. How is a "Multimodal Logistics Park (MMLP)" defined in the context of infrastructure planning?
(A) A facility providing cargo handling for road, rail, and other modes
(B) A public park designed with multiple recreational facilities
(C) An underground parking lot for city buses
(D) A dedicated zone for assembling electric vehicles

111. Which type of organization is responsible for developing GIS-based digital mapping platforms for national infrastructure planning?
(A) National policy think tanks
(B) Institutes for space applications and geo-informatics
(C) Commercial banks
(D) Social welfare departments

112. A town planner discovers that a proposed water transmission main intersects with a planned freight corridor. What is the prescribed approach to resolve this?
(A) Utilize a coordinated planning framework for design before tendering
(B) Abandon the water project completely
(C) Proceed with construction without informing other departments
(D) Reroute the water main through a residential area without notice

113. Identify the INCORRECT statement regarding the funding of integrated infrastructure frameworks:
(A) The framework is primarily a digital platform and coordination mechanism.
(B) The framework provides 100% upfront central funding for all city projects.
(C) Projects are typically executed using the budgets of their respective ministries.
(D) Central assistance may be provided to states to incentivize aligned projects.

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114. Which of the following correctly pairs an infrastructure initiative with its respective category?
(A) Bharatmala Pariyojana – Roads
(B) Sagarmala – Airports
(C) Parvatmala (Ropeways) – Waterways
(D) Regional Connectivity Scheme – Railways

115. Consider the following statements regarding the objective of "End-to-End connectivity":
Statement I: It aims to eliminate multiple handling and transit delays of cargo.
Statement II: It relies heavily on single-mode transport, discouraging inter-modal shifts.
Which of the above statements is/are correct?
(A) Only Statement I
(B) Only Statement II
(C) Both Statement I and Statement II
(D) Neither Statement I nor Statement II

116. While planning an inland dry port, which layers must be critically analyzed on a GIS platform to prevent Right-of-Way (RoW) issues?
(A) Highway, rail, power line, and underground pipeline mapping layers
(B) Rainfall distribution and soil taxonomy layers only
(C) Demographic density and literacy rate layers only
(D) Historical monuments and tourism footfall maps only

117. Which of the following is NOT an intended outcome of integrating urban planning with a National Master Plan?
(A) Synchronized execution of civic utilities along with road construction
(B) Identification of optimal locations for urban freight nodes
(C) Data-backed decision making for transit-oriented development
(D) Ensuring all city development occurs outside state boundaries

118. Identify the correct pair regarding the functions of a state-level infrastructure framework:
(A) Empowered Group of Secretaries – Review and monitor implementation of the Master Plan
(B) Network Planning Group – Sanctioning agricultural crop loans
(C) Technical Support Unit – Managing city traffic signals manually
(D) State Nodal Agency – Collecting direct income tax from citizens

119. In the context of project monitoring, if an agency updates the physical progress of a logistics hub via a mobile app linked to a central portal, this is an application of:
(A) Real-time monitoring and dynamic dashboarding
(B) Outdated historical archiving
(C) Post-project impact evaluation
(D) Single-source procurement tracking

120. What is the ultimate macroeconomic impact expected from the successful implementation of integrated infrastructure and logistics policies?
(A) Improved manufacturing competitiveness by reducing logistics costs
(B) An increase in the cost of raw materials to discourage manufacturing
(C) A complete transition of the economy to a purely agrarian model
(D) Centralization of all urban governance to a single federal ministry

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33. (A) Geotagging – Appending geographical coordinates to digital media for asset verification
Modern urban monitoring uses various technical terms to describe specific processes. Attaching geographic coordinates to photographs allows for precise spatial verification of assets. Other terms refer to different concepts, such as assessments conducted during implementation, indicators that measure the eventual benefits for people, or the initial data sets used as a reference point for all subsequent progress measurements and evaluations.

34. (C) They are solely focused on punishing the contractor for delays without proposing solutions.
Mid-term evaluations are constructive management tools used to assess if a project is on track to meet its goals. They analyze physical and financial data to identify bottlenecks and propose solutions for improvement. Rather than being purely punitive, their primary purpose is to allow for adaptive management and mid-course corrections, ensuring that any challenges are addressed before the project concludes.

35. (A) Percentage increase in waste recycled and diverted from landfills
Outcome indicators focus on the benefits or changes resulting from project outputs. For a waste processing plant, the immediate output is the facility itself, while the outcome is the measurable improvement in waste management efficiency, such as higher recycling rates. This differs from input indicators like budget spent or output indicators like the number of machines purchased or workers hired.

36. (C) Both Statement I and Statement II
Digital spatial tools are essential in modern urban missions for both tracking large-scale infrastructure and verifying individual benefits. By mapping physical progress directly onto geographic platforms, authorities can visualize development in real-time. For household-level facilities, recording specific locations prevents the duplication of benefits and ensures that subsidies reach the intended recipients, thereby improving the overall integrity and transparency of government schemes.

37. (B) Field verification of households actually receiving water
Monitoring the success of a water supply scheme requires checking the actual service delivery to the target population. While tracking procurement, budgets, or staff wages provides information on inputs and activities, only direct field verification can confirm if households are truly benefiting from functional connections. This ground-level check ensures that the infrastructure is not just physically present but also operational.

38. (A) 1, 2 and 3
Independent inspection agencies are hired to maintain high construction standards and verify that work aligns with approved designs. Their roles include material testing and checking dimensions, which are critical for ensuring structural integrity. Certification from these agencies is typically required before final payments are released. However, they do not have the administrative authority to cancel national budget allocations.

39. (D) To quantify immediate deliverables produced by activities
In the logical framework approach, output indicators are used to measure the direct results of project activities. These are the tangible products or services delivered, such as the number of kilometers of road paved or the count of schools built. They provide a clear, quantifiable way to track progress during the implementation phase, separate from long-term economic impacts or climate history.

40. (A) Both A and R are true and R is the correct explanation of A.
Management information systems are powerful tools for tracking project data, but they are only as reliable as the information entered into them. Relying exclusively on digital dashboards can lead to inaccuracies because they may not reveal issues like poor workmanship or falsified progress. Therefore, physical site inspections remain essential to validate reported data, ensuring that the actual construction matches the records.

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final transfer of assets to the operations team happens during the handover phase, which follows the successful completion, testing, and commissioning of all civil and mechanical systems.

9. (B) Adaptive management and mid-course correction
Complex urban infrastructure projects often encounter unforeseen site conditions, such as underground utilities or geological surprises. Managing these challenges requires a flexible approach that allows for the integration of necessary changes while preserving the project's overall viability. This method emphasizes learning from ongoing implementation and making informed adjustments to keep the project on track despite technical or financial obstacles.

10. (A) Both A and R are true and R is the correct explanation of A.
Large-scale urban projects often require development in distinct geographic segments to manage logistical challenges effectively. For instance, constructing a city-wide transit network all at once would cause massive traffic disruption and strain municipal resources. By implementing the project in specific phases, authorities can maintain city functionality, manage public inconvenience, and apply lessons learned from early sections to later ones.

11. (A) Drafting the initial project feasibility report
Construction supervision focuses on monitoring physical activities on-site to ensure they align with approved designs and quality standards. This involves approving shop drawings, testing materials in labs, and enforcing safety protocols. Drafting feasibility reports, however, is a pre-construction activity conducted during the planning phase to determine whether a project should be initiated based on technical and financial viability.

12. (C) The process of ensuring systems operate per requirements
After construction is physically complete, infrastructure systems must undergo rigorous verification before being put into service. This procedure involves testing all mechanical, electrical, and hydraulic components under operational conditions to confirm they meet design specifications. In water supply projects, this ensures that pumps, valves, and treatment units function correctly together, guaranteeing reliable service delivery to the end users.

13. (D) Technical phasing – Sequencing works so that prerequisite engineering tasks precede subsequent dependent tasks
Project phasing is essential for logical execution. Technical phasing specifically focuses on the engineering sequence, ensuring that foundational or prerequisite activities are completed before dependent tasks begin. Other forms of phasing address different constraints, such as allocating work based on geographic zones, releasing funds in periodic installments, or managing the overall project timeline to align with seasonal or administrative requirements.

14. (C) P-3, Q-2, R-1, S-4
Procurement strategies are chosen based on project complexity and market conditions. Direct selection is used for proprietary technology, while limited tenders involve a shortlist of qualified firms. National bidding restricts participation to domestic companies to ensure local compliance. For large-scale projects with international funding, global bidding is mandated to attract specialized expertise and ensure transparency through wide international competition.

15. (B) Preparing as-built drawings and operation manuals
Transitioning a project from construction to operations requires comprehensive documentation of the final built state. As-built drawings provide the exact location and specifications of all installed infrastructure, while operation manuals guide the maintenance team on proper system management. These competencies are vital for ensuring that the asset remains functional and can be effectively maintained throughout its designed service life.

16. (D) It visually maps activities against a horizontal time scale to track progress.
Effective project monitoring requires visual tools that represent the schedule clearly. A popular method involves displaying activities as bars along a timeline, showing start dates, end dates, and durations. This allows project managers to quickly identify overlapping tasks, track progress

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against the original plan, and recognize potential delays, making it a staple for managing timelines in urban infrastructure development.

17. (A) Logframe – Establishes a hierarchical baseline for asset geotagging only
Logical frameworks provide a comprehensive structure for planning, relating inputs to broad objectives rather than just managing digital assets. Other tools serve specific functions, such as breaking down the project into manageable work packages, using multiple time estimates to handle uncertainty, or identifying the sequence of critical tasks. These tools work together to ensure systematic planning and execution of projects.

18. (B) 1, 3 and 4
Effective project phasing organizes work to manage financial, spatial, and risk-related constraints. Financial phasing ensures activities align with budget availability, while spatial phasing breaks projects into manageable geographic areas. Proper phasing facilitates risk mitigation and allows for mid-course adjustments. Technical phasing, however, involves sequencing dependent engineering tasks logically rather than simply delaying work until all project funds are fully received.

19. (A) Single Source Selection
When a required technology or system is proprietary and available from only one specific manufacturer, competitive bidding is not feasible. In such cases, procurement guidelines allow for direct selection of that vendor. This approach is typically reserved for highly specialized items, such as patented signaling systems, where no equivalent alternative exists in the market to ensure the project's technical requirements.

20. (A) Both A and R are true and R is the correct explanation of A.
Monitoring and evaluation frameworks rely on having a clear starting point to measure change. Establishing baseline indicators allows planners to document initial conditions before project activities begin. Without this data, it is impossible to quantify progress, measure the success of outputs, or evaluate the eventual outcomes and impacts of urban development schemes accurately over the project duration.

21. (B) It tracks implementation activities, resources, and timelines.
Process monitoring focuses on the internal mechanics of project implementation. It involves the continuous tracking of daily activities, the utilization of financial and physical resources, and adherence to established timelines. Unlike impact assessments that look at long-term societal changes, this type of monitoring ensures that the project is being executed as planned and identifies operational bottlenecks requiring immediate attention.

22. (C) Both Statement I and Statement II
Project indicators are categorized by the level of achievement they measure. Some indicators track immediate, tangible results like the number of physical units installed or kilometers of pipes laid. Others focus on the long-term, broader changes resulting from those outputs, such as improvements in public health or economic growth. Using both types provides a comprehensive view of project success.

23. (D) They provide remote dashboards for tracking project progress.
Modern monitoring systems utilize digital platforms to aggregate data from various sources, presenting it through interactive interfaces. These tools allow project managers to track physical and financial progress from a distance, facilitating transparency and data-driven decision-making. While they provide valuable oversight and centralized information, they are typically designed to complement rather than completely replace regular on-site physical inspections.

24. (A) P-3, Q-1, R-4, S-2
Evaluation occurs at different project stages to serve specific purposes. Ongoing assessments provide real-time feedback during execution, while mid-point reviews trigger necessary course corrections. End-line evaluations check if initial objectives were met immediately after completion. Finally, long-term assessments measure the broader socio-economic or environmental impacts that emerge years after the project has been fully operational and integrated.

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25. (B) Mobile app-based Geotagging with time-stamped photographs
To verify construction progress in social housing schemes, authorities often use digital tools that record the exact geographical coordinates and time of progress photos. This process ensures that funds are released only after the physical completion of specific stages, such as foundation or roofing. It provides a transparent, verifiable record that prevents fraudulent claims and ensures accountability in the disbursement process.

26. (A) 2, 4, 1, 5, 3
A comprehensive monitoring and evaluation cycle begins by establishing baseline data. This is followed by concurrent process monitoring to track ongoing activities. A mid-term evaluation is then conducted to assess progress and make adjustments. Upon project completion, an end-line evaluation determines if objectives were met. Finally, a long-term impact assessment measures the broader changes resulting from the project over time.

27. (A) The need for combining MIS with ground truthing and inspection
Discrepancies between digital reports and physical site conditions highlight the limitations of relying solely on automated data. While management information systems offer convenient tracking, they depend on the accuracy of manual data entry. Therefore, effective monitoring requires regular field verification and physical inspections to validate reported data, identify actual site bottlenecks, and ensure that the project is truly advancing.

28. (B) 1 and 3
Independent agencies play a crucial role in ensuring construction quality by providing unbiased assessments that are separate from the contractor and the local body. Their certifications are often mandatory for the approval of payment bills, ensuring that funds are only spent on work meeting specifications. They focus on both technical quality and physical progress rather than just simple financial accounting.

29. (D) Host urban data for evidence-based planning and monitoring
Centralized urban data repositories are designed to collect and manage information from various cities and states. These platforms serve as critical tools for researchers, planners, and policymakers, facilitating evidence-based decision-making and performance monitoring. By hosting diverse datasets, they enable comparative analysis and help in identifying urban trends, ultimately supporting more effective planning and resource allocation at the national level.

30. (A) Both A and R are true and R is the correct explanation of A.
Integrated management information systems streamline project oversight by requiring local bodies to input standardized data on physical and financial progress. This mandatory reporting ensures that all entities are evaluated against the same parameters, enhancing transparency and accountability. Furthermore, such platforms facilitate comparative analysis, allowing higher-level authorities to identify regional performance gaps and allocate resources or support more effectively.

31. (B) Traffic reduction levels five years after project completion
Process monitoring is concerned with the immediate activities and efficiency of the implementation phase. It tracks metrics like site meeting frequency, fund disbursement speed, and the timely submission of quality reports. Long-term outcomes, such as changes in traffic patterns several years after a project is finished, are instead measured through impact assessments, which evaluate the ultimate societal effects.

32. (D) To assess if objectives were met upon project completion
Conducted at the conclusion of project activities, end-line evaluations are designed to determine whether the intended goals and outputs were successfully achieved. This assessment compares the final results against the initial objectives and baseline data. It provides a formal summary of project performance, highlighting successes and shortcomings, which is essential for accountability and for learning lessons for future schemes.

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ANSWERS

1. (A) To link project inputs, outputs, outcomes, and goals in a systematic matrix
The logical framework approach serves as a robust planning and management tool. It structures project components into a logical sequence, ensuring that resources and activities directly contribute to specific deliverables and higher-level objectives. This systematic matrix facilitates clear communication among stakeholders, enhances accountability, and provides a structured basis for monitoring progress throughout the urban project lifecycle.

2. (C) CPM is deterministic with single time estimates, while PERT is probabilistic with three.
Project management methodologies utilize different approaches for time estimation. One method assumes fixed, known durations for activities, making it suitable for predictable construction tasks. Conversely, another method accounts for uncertainty by incorporating optimistic, pessimistic, and most likely timeframes. This probabilistic nature is essential for complex research or developmental projects where specific task durations are not easily predictable.

3. (A) A hierarchical decomposition of the total scope of work to be carried out by the team
A Work Breakdown Structure organizes the entire project scope into manageable, smaller components. By breaking down complex urban initiatives into discrete deliverables, it provides a clear framework for resource allocation and cost estimation. This hierarchical visualization ensures that every task is accounted for, preventing scope creep and facilitating easier tracking of progress during the project implementation phase.

4. (D) International Competitive Bidding (ICB)
Large-scale infrastructure projects funded by global financial institutions require transparent and competitive procurement processes. This strategy encourages participation from qualified firms worldwide, ensuring the best value for money and technical expertise. By advertising globally and adhering to standardized guidelines, implementing agencies can secure high-quality contractors and specialized equipment necessary for complex urban development and externally aided initiatives.

5. (B) Gantt Chart
Visualizing project schedules involves mapping tasks against a horizontal timeline to identify dependencies and potential delays. This tool effectively displays the original baseline alongside actual progress, making it easy to spot deviations in specific work packages. It is particularly useful for municipal engineers to understand how delays in civil works impact subsequent electromechanical installations, allowing for better schedule adjustment.

6. (A) 2, 4, 5, 3, 1
Systematic project implementation begins with the procurement process and awarding contracts to suitable firms. Once the contract is secured, the team proceeds to mobilize resources and prepare the site for physical works. This is followed by construction supervision to ensure quality standards. Finally, the project undergoes commissioning and testing before being handed over for operation and maintenance.

7. (A) Only Statement I
Standardized contracts provide a balanced framework for allocating risks and responsibilities between the employer and the contractor in major infrastructure works. While these documents are widely used, different colored versions apply to specific project types. For instance, some versions are designed for employer-led designs, while others are intended for design-build or turnkey projects where the contractor assumes design responsibility.

(A) It marks the final transfer of the asset to the operations and maintenance team.
The mobilization phase occurs early in the project lifecycle, focusing on preparing for active construction. Activities include setting up site offices, securing environmental clearances, and performing preliminary surveys. In contrast, the

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41. (B) Measuring project effects on target beneficiaries
Outcome monitoring is a specific type of evaluation that looks beyond physical completion to the actual benefits realized by the intended users. It assesses whether the project has successfully changed the lives or conditions of the target group as intended. This differs from tracking raw material procurement, monitoring daily financial transactions, or documenting environmental clearances, which are focused on inputs and compliance.

42. (D) Impact Indicator – Number of bricks purchased for construction
Monitoring tools have specific roles in project evaluation. Baselines provide a starting reference, targets set intended goals, and dashboards visualize performance. However, the number of bricks purchased is considered an input or activity measure. An impact indicator would instead measure the long-term societal or economic benefits resulting from the completed building, such as improved housing quality or increased resident safety.

43. (A) To provide financial assistance for local body infrastructure projects
State-level infrastructure funds are designed to support the development of essential civic amenities within municipalities. By providing dedicated financial resources, these funds help local bodies bridge the gap between their internal revenues and the high costs of building roads, drainage systems, and other urban utilities. This support is crucial for implementing local master plans and improving overall urban living standards.

44. (C) P-3, Q-1, R-2, S-4
Different urban missions employ specific funding and management models. One mission focuses on achieving universal water coverage, while another utilizes special entities to manage city-level projects. Housing schemes often provide direct central assistance to individual beneficiaries. Additionally, certain financial institutions focus on supporting infrastructure development in rural and semi-urban areas to improve regional connectivity and basic services.

45. (D) Funding is shared between Central, State, and local body/Beneficiary.
The financing of major urban housing schemes involves a collaborative approach between different levels of government and the recipients. The Central and State governments provide specified shares of the total cost, while the remaining portion is covered by the local body or the individual beneficiaries themselves. This multi-stakeholder funding model ensures shared responsibility and helps leverage resources to achieve housing goals.

46. (A) 2, 1, 4, 3
The flow of funds for government schemes follows a structured administrative path. It begins with a budgetary allocation from the Central Ministry, followed by the release of the central share to a state-level account. The state then adds its required matching contribution. Finally, the total combined funds are transferred to the local body or the specific agency responsible for execution.

47. (A) Shyama Prasad Mukherji RURBAN Mission
Specific government initiatives target the development of clusters where rural regions are gradually taking on urban characteristics. These missions provide funding for integrated infrastructure, such as improved roads, water supply, and waste management, to ensure these areas grow sustainably. By focusing on these transitional zones, the mission aims to stimulate local economic growth and reduce the migration pressure on existing large cities.

48. (B) 1, 3 and 4
Special Purpose Vehicles are established as independent companies to manage complex city-level initiatives. They receive matching grants from central and state authorities and have the power to raise additional revenue through innovative financing mechanisms like value capture. While they operate under corporate laws, they are often encouraged to seek diverse funding sources, including municipal bonds, to ensure project sustainability.

49. (A) Supplement local body resources for basic services and plans
Finance commissions recommend the transfer of state revenues to local governments to strengthen their financial capacity. These funds are primarily

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population, with a strong emphasis on providing affordable options for lower and middle-income groups. Their mission is to ensure equitable access to shelter rather than catering exclusively to luxury developments. This contrasts with other urban focus areas like waste management or rapid transit, which have different but equally specific objectives.

83. (C) 2021
A significant national master plan for multimodal connectivity was officially launched in 2021. This initiative was designed to break down silos between different infrastructure departments and create a more coordinated approach to project planning and execution. By providing a unified platform for tracking and integrating various transportation and utility networks, it aims to reduce logistics costs and improve the overall efficiency of national infrastructure development.

84. (A) P-4, Q-1, R-3, S-2
National infrastructure planning identifies key sectors that drive economic growth, such as highways, mass transit, and ports. Each sector has a specific focus, from expanding road networks to developing metro corridors and improving cargo handling at coastal gateways. Additionally, the development of logistics parks and warehousing is prioritized to ensure efficient goods movement, demonstrating an integrated approach to connecting different parts of the national economy.

85. (A) It unifies infrastructure schemes of multiple ministries on one digital platform.
Integrated infrastructure planning moves away from isolated departmental work by bringing various national schemes together on a single digital portal. This allows different ministries to see each other's plans in real-time, preventing conflicts like road construction interfering with railway lines. By coordinating efforts across sectors, the government can ensure that infrastructure development is more efficient, cost-effective, and supportive of overall economic goals.

86. (A) 3, 2, 1, 4
Identifying infrastructure gaps through a digital platform follows a clear sequence. First, existing data layers from various departments are overlaid. Then, the proposed new project alignment is added to the map. This allows planners to identify any physical clashes or missing connections. Finally, the design is modified to ensure that the new infrastructure integrates perfectly with existing systems, avoiding future operational problems.

87. (A) Individual citizen bank account details
National mapping platforms for infrastructure are designed to host technical and environmental data essential for planning. This includes information on forest boundaries, utility networks like fiber cables, and transportation lines like railways. These layers help planners avoid sensitive areas and coordinate with other services. However, they do not include private personal information like bank details, as such data is irrelevant to physical infrastructure planning.

88. (B) 1, 2 and 4
Multimodal connectivity aims to make the movement of goods as efficient as possible by using the most suitable transport modes. The goal is to reduce overall logistics costs and ensure that products move seamlessly between roads, rails, and ships. This involves providing strong connections to industrial zones rather than forcing all cargo onto one type of transport, which would be inefficient for the national economy.

89. (A) Connecting economic zones efficiently to main transport arteries
The concept of last-mile integration focuses on the final segment of a journey, ensuring that goods or people can easily reach their ultimate destination from a major transport hub. In industrial planning, this means building high-quality links between manufacturing plants and the nearest main highway or railway terminal. This prevents bottlenecks at the end of the supply chain, which can significantly increase costs and delays.

90. (A) Both A and R are true and R is the correct explanation of A.
When designing city master plans, urban planners must consider how local networks connect with broader regional and national infrastructure. By using integrated geographic platforms, they can ensure that new city roads align with

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such as real estate markets or health services. Correctly identifying these pairs is essential for understanding how various departments coordinate to manage complex urban environments.

58. (B) 1, 2 and 4
Large-scale transit projects like metro rails involve complex financial arrangements, often including equal equity participation from central and state governments. They also frequently utilize long-term loans from international agencies. To manage these substantial finances and project execution, specialized limited companies are established. While operational costs are significant, they are managed through various revenue streams rather than being entirely covered by local property taxes.

59. (B) Protecting project funds from general municipal expenditures
Financial management for specific urban projects often involves creating a protected account where funds are exclusively reserved for that project's activities. This principle, known as ring-fencing, ensures that money intended for infrastructure development is not diverted to cover a municipality's general operating expenses. This practice builds trust with investors and donor agencies by guaranteeing that resources are used as intended.

60. (A) Both A and R are true and R is the correct explanation of A.
Beneficiary-led construction is a popular housing model because it empowers individuals who already own land to improve their living conditions. By transferring financial assistance directly to their bank accounts in stages, the government enables these residents to build or expand their own homes according to their needs. This approach leverages personal initiative and reduces the need for large-scale public land acquisition.

61. (A) Statutory transfer of state tax revenues to local bodies
Fiscal devolution refers to the structured and legally mandated process of sharing financial resources from the state government to local administrative units. This transfer is designed to provide municipalities with a reliable source of income to perform their duties and manage local affairs. It is a fundamental aspect of decentralized governance, ensuring that local bodies have the necessary funds to be effective.

62. (C) Achieving high efficiency through a closed-system corridor
Successful high-capacity bus transit systems rely on having a dedicated, protected right-of-way that separates them from general city traffic. This "closed-system" approach allows buses to maintain high speeds and reliable schedules, which are essential for attracting riders. By ensuring that buses are not delayed by congestion, the system achieves the efficiency needed to serve as a viable alternative to private vehicles.

63. (C) Both Statement I and Statement II
Planning urban rail networks requires navigating diverse and often congested landscapes. Engineers may design a combination of elevated and underground tracks to avoid existing obstacles and minimize social disruption. Furthermore, priority is typically given to corridors that link significant residential zones with major employment or educational hubs, ensuring that the transit system serves the areas with the highest travel demand.

64. (A) P-4, Q-2, R-1, S-3
Urban projects are categorized by their specific focus and operational goals. Some focus on waste collection and conversion to energy, while others handle the logistical needs of large-scale events or heritage sites. Conservation projects prioritize protecting water bodies and their catchments. Meanwhile, industrial planning centers on creating efficient corridors and logistics hubs to support manufacturing and trade within the regional economy.

65. (A) Redevelopment of a specific urban area with integrated smart systems
The area-based development model focuses resources on improving a clearly defined part of a city rather than spreading them thinly everywhere. This approach involves intensive infrastructure upgrades and the integration of smart technologies, such as improved lighting and sensor-based utilities, within that specific zone. This serves as a pilot to demonstrate the

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intended to help municipalities provide essential services like sanitation, water supply, and local road maintenance. By supplementing local internal revenues, these devolutions enable urban bodies to implement their development plans and maintain infrastructure more effectively for their residents.

50. (A) Both A and R are true and R is the correct explanation of A.
Many urban local bodies face significant financial challenges because their internal revenue from taxes and fees is often insufficient to cover large-scale capital investments. Consequently, they depend heavily on grants and budgetary allocations from state and central governments to build major infrastructure like treatment plants. This financial dependency underscores the importance of intergovernmental fund transfers in supporting comprehensive urban development.

51. (B) State Cooperative Bank Agricultural Loan Fund
Urban development departments manage various funds dedicated to city infrastructure, including infrastructure development funds, state matching shares for national missions, and specific chief minister's schemes. These resources are strictly targeted at urban planning and civic amenities. In contrast, funds related to agricultural loans are managed by departments focused on rural development and farming, as they serve a different sector.

52. (A) Only Statement I
International development agencies frequently provide financial support for large-scale urban infrastructure projects such as water systems and transit networks. While these agencies offer significant loans or grants, such projects almost always require the participating state or local government to contribute a matching counterpart share. This ensures local commitment and shared financial responsibility for the project's long-term success and maintenance.

53. (A) Providing credit for affordable housing construction
Cooperative housing finance societies play a specialized role in urban development by facilitating access to affordable credit. They provide the necessary financial backing for the construction of housing units, particularly for lower and middle-income groups. This specialized financial support helps address the housing shortage in cities, complementing other urban planning activities like master plan regulation or waste management.

54. (A) P-2, Q-3, R-4, S-1
Funding for urban schemes is typically structured as a partnership between various entities. The central ministry releases its portion, while the state finance department provides a matching share. The local executing agency may contribute from its own municipal funds or loans. Finally, in some programs, the individual receiving the benefit also pays a specific share to ensure personal investment.

55. (B) Based on City Water Balance Plans and state priorities
Allocating funds for water rejuvenation involves a strategic assessment of local needs and regional goals. Cities must develop comprehensive plans that analyze their water resources and balance requirements. State authorities then use these plans to prioritize investments where they will have the most significant impact on water security. This methodical approach ensures that limited financial resources are used effectively.

56. (B) The entire cost of the mission is borne 100% by international donor agencies.
National sanitation missions are funded through a combination of central and state government contributions rather than being entirely dependent on international donors. Funds are disbursed in installments based on the achievement of specific physical milestones and the submission of utilization certificates. This cooperative federalism model ensures that both levels of government are financially invested in achieving a cleaner urban environment.

57. (A) Urban Infrastructure Development Scheme – City roads, drains, and civic amenities
Specific government schemes are designed to address particular urban needs. For instance, infrastructure development programs focus on core civic amenities like roads and drainage to improve city functionality. Other agencies and regulations handle different domains,

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74. (B) P-3, Q-2, R-4, S-1
Urban planning incorporates diverse project types, each linked to specific concepts. Large-scale transit systems use rapid rail to reduce traffic. Smart cities utilize centralized command centers for technology-driven governance. Heritage projects focus on pedestrianization and conservation to protect culture. Meanwhile, industrial planning creates dedicated corridors and logistics hubs to support economic growth, demonstrating the varied approaches used to manage modern cities.

75. (B) Success requires dedicated right-of-way and integrated services.
Experience with bus rapid transit has shown that its effectiveness depends on having exclusive lanes that are physically separated from other traffic. This allows for high-speed, reliable service that can compete with private cars. Additionally, successful systems must be well-integrated with other transport modes and provide convenient services to riders. Without these dedicated features, bus systems often struggle to meet their performance goals.

76. (A) Integrated Command and Control Centre (ICCC) – Smart City Governance
Modern urban management uses specialized facilities to integrate data from various city systems, such as traffic, emergency services, and utilities. This centralized approach allows for real-time monitoring and more efficient response to city-wide issues, forming a core part of smart city governance. Other urban components, like waste management or heritage development, serve different but equally important roles in the overall planning framework.

77. (A) City-wide Intelligent Traffic Management System (ITMS) installation
Pan-city solutions are initiatives designed to benefit the entire urban area rather than just a specific neighborhood. Installing an intelligent traffic management system is a prime example, as it affects the movement of people across the whole city. This contrasts with more localized projects like redeveloping a single slum or building a specific park, which are targeted at improving particular geographic areas.

78. (B) 1, 2 and 4
Protecting urban lakes involves a multi-pronged approach that includes preserving water quality and restricting construction in nearby buffer zones. Planners also implement measures to intercept and divert sewage, preventing untreated waste from entering the water body. These efforts aim to maintain ecological balance and provide recreational space, while activities like heavy industrial development are strictly prohibited near these sensitive environmental sites.

79. (A) Area Based Development
In the context of national urban initiatives, this term refers to a strategy where specific geographic zones within a city are selected for intensive infrastructure and technology upgrades. This model allows for the creation of "smart" precincts that serve as examples of modern urban design. By focusing efforts on a manageable area, cities can demonstrate tangible improvements in living standards before scaling up to larger areas.

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80. (A) Both A and R are true and R is the correct explanation of A.
Planning industrial zones requires a specialized focus on the logistics of moving heavy goods. Because these areas are hubs for importing raw materials and exporting finished products, they generate significant truck and freight traffic. Consequently, road networks and other transport infrastructure in these zones must be designed to accommodate heavy loads and facilitate efficient movement, ensuring that the industrial operations can function smoothly.

81. (A) Only Statement I
Ensuring universal access to safe tap water is a primary goal of modern urban planning. To achieve this efficiently, contemporary schemes often encourage the use of advanced technology, such as automated control systems, to monitor and manage water flow and quality. This technological integration helps utilities detect leaks, manage pressure, and ensure a reliable supply, contradicting the idea that such modern systems are discouraged in current planning.

82. (A) Housing Board Schemes – Luxury farmhouse development for high-income groups only
Public housing boards are primarily established to address the housing needs of the general

benefits of modern urban planning before wider implementation.

66. (A) 3, 1, 2, 4
Effective waste management follows a logical progression beginning with households separating their waste into different categories. This is followed by establishing a comprehensive door-to-door collection system. Once collected, the waste is taken to centralized facilities for processing and recycling. The final stage involves addressing long-standing environmental issues by treating legacy waste and closing down traditional open dumping sites.

67. (A) Complete privatization of the municipal administrative wing
Successful waste management depends on operational efficiency and community participation. Key factors include residents segregating waste at the source, using GPS to optimize collection routes, and removing unsightly street bins to encourage direct collection. While private contractors may be hired for specific tasks like collection or processing, the total privatization of the entire municipal administration is not a standard or necessary requirement for success.

68. (B) 1, 3 and 4
Planning for large-scale events in historic areas requires a delicate balance between modern logistics and heritage preservation. This involves creating temporary infrastructure for sanitation and water, mapping out pedestrian and traffic flows, and integrating permanent conservation efforts with event preparations. Commercial activities are typically managed or relocated temporarily rather than permanently halted, as they are often vital to the local heritage economy.

69. (B) By combining public recreation with water body conservation
Waterfront development projects aim to transform underutilized areas into vibrant public spaces while protecting the natural environment. By creating parks, walkways, and recreational facilities along lakes or rivers, planners can prevent encroachment and pollution. This approach turns the water body into a community asset that supports both ecological health and the well-being of urban residents, rather than using it for industrial dumping.

70. (A) Both A and R are true and R is the correct explanation of A.
Modernizing water utilities involves a strong focus on reducing water that is produced but not billed, often due to leaks or unauthorized use. High levels of this "non-revenue water" indicate significant physical and financial losses, which can make the entire system unsustainable. By minimizing these losses, utilities can improve their financial health, conserve water resources, and provide more reliable service to the public.

71. (A) Cross-subsidizing lower-income housing through higher-income unit surpluses
Mixed-income housing strategies are used to make affordable housing financially feasible. By including units for higher-income groups within the same project, developers can use the profits from those sales to lower the cost of housing for low-income residents. This cross-subsidy model promotes economic integration and ensures that essential housing projects can be built without relying entirely on government grants.

72. (A) They lack any highway connectivity to national networks.
Industrial corridor planning is centered on providing superior connectivity to facilitate the movement of goods and raw materials. These corridors are intentionally designed to integrate with national highways, railways, and ports to create efficient logistics chains. They often include specialized zones for manufacturing and exports, requiring close cooperation between different levels of government and planning authorities to ensure a cohesive development strategy.

73. (A) HRIDAY
Certain urban schemes are specifically dedicated to rejuvenating heritage cities by improving the civic infrastructure around cultural sites. This includes enhancing pathways, lighting, and sanitation to create a better experience for tourists while preserving the historic character of the area. Unlike broader missions that focus on general water supply or housing, this program targets the unique needs of cities with significant cultural value.

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major economic corridors and do not conflict with national utility lines. This coordination is essential for creating a cohesive transport network that supports both local growth and national economic integration.

91. (A) Create an integrated, efficient, and sustainable logistics ecosystem
National policies for logistics are focused on streamlining the movement of goods to make the entire economy more competitive. This involves using data to drive decisions and creating a system where different modes of transport work together smoothly. By improving efficiency and sustainability, the policy aims to lower costs for businesses and ensure that the logistics sector can support long-term national development goals.

92. (B) It highlights missing links to enable prioritized investments.
Coordinated infrastructure frameworks allow planners to see the entire network at once, making it obvious where connections are missing. For example, a new port might need a better rail link or a highway might need a bypass. Identifying these gaps allows the government to focus its limited budget on the most critical projects that will have the biggest impact on overall system efficiency.

93. (C) Both Statement I and Statement II
Implementing national infrastructure master plans requires active participation at the state level. States establish high-level committees and dedicated cells to coordinate their local projects with national goals. These groups are also responsible for ensuring that specific state data, such as local road and utility maps, is correctly uploaded to national digital platforms, creating a complete and accurate picture for all infrastructure planners to use.

94. (A) P-2, Q-4, R-3, S-1
Coordinated infrastructure planning involves several key elements. Digital mapping provides the technological base for spatial analysis, while the main sectors of the economy act as engines for growth. Real-time updates ensure that planners have current information, and the overall goal is to break down departmental silos so that everyone works together. This integrated approach is essential for managing complex modern infrastructure projects effectively.

95. (C) They rely entirely on static paper maps updated once a decade.
Modern infrastructure planning has moved away from old-fashioned paper maps towards dynamic digital platforms. These systems host multiple layers of geographic data, allowing for cross-sectoral decision-making and providing a comprehensive view of all ongoing projects. Unlike static documents, these platforms are updated frequently to reflect the current physical and environmental conditions, making them much more effective tools for managing rapid urban and national development.

96. (A) Using GIS to align the corridor with highway, power, and gas grids
Integrated planning requires considering all necessary services at the same time. When developing an industrial corridor, this means using geographic tools to ensure it has good access to highways, railways, and essential utilities like electricity and gas. Sharing these details with other departments from the beginning prevents future conflicts and ensures that the corridor is fully equipped to support manufacturing and logistics activities.

97. (A) Streamlining clearances by providing visibility of utility networks
Project delays are often caused by unexpected encounters with underground pipes or cables that weren't properly mapped. Modern initiatives aim to reduce these overruns by providing a clear view of all utility networks during the planning stage. This transparency allows for faster clearances and better design, ensuring that contractors don't run into obstacles once construction begins, all while still adhering to environmental and quality standards.

98. (B) 1, 3 and 4
The pillars of integrated planning include diverse sectors like roads, railways, and waterways, all of which are mapped together on a unified digital platform. These engines are supported by energy and communication networks to ensure they function properly. Far from being planned in isolation, they are carefully coordinated to ensure that the entire national infrastructure network

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works as a single, efficient system to support economic growth.

99. (A) Single digits (approx. 8-9%) comparable to global benchmarks
A key goal of modern national logistics policy is to significantly lower the cost of moving goods, aiming for levels similar to those in other leading economies. High logistics costs make products more expensive and less competitive internationally. By improving infrastructure and streamlining processes, the government aims to bring these costs down into the single digits, which will help boost manufacturing and overall economic performance.

100. (A) Both A and R are true and R is the correct explanation of A.
In the past, different government departments often worked without knowing each other's plans, leading to waste and inefficiency, such as roads being dug up shortly after being paved. To solve this, new governance initiatives emphasize "silo-breaking," which forces departments to share data and coordinate their activities. This integrated approach ensures that infrastructure is built in a logical order, saving time and public money.

101. (A) Transit Oriented Development – Synergizing growth along mass transport corridors
Modern urban planning uses concepts like developing high-density areas around transit hubs to encourage public transport use and reduce car dependency. This is part of a broader strategy for comprehensive mobility and industrial development. Correctly understanding these pairs is vital for identifying the different ways that planners attempt to create more sustainable and efficient cities that are well-connected to regional and national networks.

102. (B) Airports – Real estate pricing regulation in urban centers
Each infrastructure sector has a defined primary role. Waterways and ports are focused on moving cargo, while mass transport handles urban mobility. Airports serve as critical hubs for air travel and global connectivity. While airports can influence nearby property values, they are not primarily designed to act as regulators for urban real estate prices; that task is typically handled by specific housing and urban development authorities.

103. (C) Both Statement I and Statement II
Multimodal logistics parks are designed to be central points where cargo can easily switch between different types of transport, such as from trucks to trains. These facilities include warehouses and other services to add value to the goods being moved. By integrating these parks with highways and dedicated freight lines, the government aims to create a more efficient and reliable national logistics network.

104. (A) P-2, Q-3, R-4, S-1
Managing national logistics involves several coordinated functions. It requires ensuring smooth movement from start to finish and resolving disputes between different government departments. Additionally, existing infrastructure can be used to generate funds for new projects through monetization. Digital tools and spatial mapping are essential for visualizing these complex systems, allowing planners to see the terrain and existing utilities when designing new connectivity projects.

105. (A) Checking a coordination portal for utility or rail intersections
Before starting a major new road project, local planners must verify that the proposed path doesn't conflict with existing or planned utilities, such as pipelines or railway lines. Using a central coordination portal allows them to see these intersections early in the process. This proactive check is essential for avoiding costly redesigns or construction delays and ensures that the new road integrates properly with the broader infrastructure network.

106. (C) Eliminating all private sector participation in the transport sector
National logistics policies aim to improve the country's international standing and efficiency through data-driven decisions and reduced turnaround times at ports and terminals. These goals require a collaborative environment rather than the exclusion of private companies. In fact, encouraging private sector participation and investment is often a core strategy for building and operating the modern infrastructure needed for a competitive national logistics ecosystem.

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107. (A) Dynamic monitoring for prompt bottleneck resolution and management
Having access to the latest data on a digital platform allows project managers to see exactly how work is progressing and identify any problems immediately. This real-time visibility is vital for resolving bottlenecks quickly and keeping complex infrastructure projects on schedule. It transforms monitoring from a slow, paper-based process into a dynamic management tool that enhances the overall efficiency and transparency of project implementation.

108. (B) 1, 2 and 4
Successful infrastructure planning at the state level involves using digital portals that are linked to national systems. These tools help identify the best locations for new industrial zones by showing where utilities are already located. Furthermore, training planners to use these advanced geographic tools is a key part of the strategy. These platforms are designed to be inclusive, incorporating data from all levels of government, including state highways.

109. (A) Identifying missing links to connect industrial hubs to transport lines
In the context of national master plans, finding gaps means looking for where the current infrastructure network fails to connect important economic centers. For example, a major factory might be close to a railway but lack a proper loading terminal. By identifying these missing pieces, planners can prioritize the specific small projects that will have a large impact on the efficiency of the entire transport system.

110. (A) A facility providing cargo handling for road, rail, and other modes
A multimodal logistics park is a specialized hub designed to handle large volumes of freight efficiently. Its main purpose is to allow goods to be transferred easily between different modes of transport, such as from trucks to trains or ships. These facilities also provide storage and other logistics services, making them vital components of a modern national transport system that aims to reduce costs and improve reliability.

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111. (B) Institutes for space applications and geo-informatics
Developing the complex digital platforms needed for national infrastructure mapping requires specialized technical expertise. This task is typically handled by organizations that focus on space technology and geographic information systems. These institutes have the tools and knowledge to create detailed, multi-layered maps that integrate satellite data with ground-level utility and transportation information, providing a reliable foundation for coordinated national planning and project monitoring.

112. (A) Utilize a coordinated planning framework for design before tendering
When two major infrastructure projects are found to intersect, the best approach is to use a collaborative framework to resolve the conflict before any contracts are awarded. By coordinating the designs of both projects early, planners can find a solution that works for everyone, such as adjusting the depth of a water pipe or the path of a road. This prevents expensive changes and delays during the construction phase.

113. (B) The framework provides 100% upfront central funding for all city projects.
Integrated infrastructure initiatives are primarily about coordination and digital planning rather than being a single source of total funding. Most projects are still paid for out of the regular budgets of the relevant ministries. While there may be some central incentives to encourage states to align their projects with the national master plan, it is not a system that covers the entire cost of every local city project upfront.

114. (A) Bharatmala Pariyojana – Roads
Major national initiatives are each targeted at a specific type of infrastructure. One program focuses on developing a massive network of highways across the country, while others handle airports, waterways, or regional air connectivity. Correctly matching these programs to their sectors is essential for understanding the broad scope of the national plan to improve all aspects of transportation and connectivity to support economic development.

115. (A) Only Statement I
The goal of end-to-end connectivity is to ensure that goods can travel from their origin to their destination as quickly and cheaply as possible. This requires removing bottlenecks and minimizing the number of times cargo has to be handled. Achieving this often involves using multiple modes of transport in a coordinated way, rather than relying on just one, to take advantage of the strengths of each part of the system.

116. (A) Highway, rail, power line, and underground pipeline mapping layers
To build a functional dry port, planners must ensure it has clear access to all necessary transport and utility networks. This means carefully studying maps of nearby highways, railways, and power lines to avoid any conflicts with existing rights-of-way. While environmental and demographic data is also important, knowing the exact location of physical infrastructure is critical to ensure the port can be connected efficiently to the national logistics system.

117. (D) Ensuring all city development occurs outside state boundaries
Integrating urban planning with national master plans aims to create better synchronized city services, more efficient freight movement, and data-backed decisions for transit growth. These efforts are focused on making cities function better within their regions. Far from trying to move development outside state lines, the goal is to ensure that city-level infrastructure works perfectly with the national networks that pass through and support the state.

118. (A) Empowered Group of Secretaries – Review and monitor implementation of the Master Plan
Coordination at the state level is handled by high-level administrative groups that are responsible for overseeing the implementation of infrastructure plans. These groups ensure that different departments are working together and that projects stay on track. This management role is distinct from other technical support units or state agencies, which handle the specific data and logistics tasks needed to keep the national master plan updated and functional.

119. (A) Real-time monitoring and dynamic dashboarding
Using mobile technology to send progress updates directly from a construction site to a central portal is a key feature of modern project management. This allows authorities to see current information on interactive dashboards, making it much easier to track whether a logistics hub or other facility is being built on time. It is a clear example of using digital tools to enhance the transparency and efficiency of large-scale infrastructure development.

120. (A) Improved manufacturing competitiveness by reducing logistics costs
Integrating infrastructure and logistics planning strengthens the national economy. By making the movement of goods faster and cheaper, the government helps local manufacturers compete effectively on the global stage. This economic boost results from creating an efficient, coordinated, and technology-driven transport network that supports all sectors, ultimately improving the country's overall macroeconomic performance and international manufacturing competitiveness.

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CHAPTER 21

Planning Legislation and Regulatory Framework

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1. Arrange the following landmark planning and regulatory enactments in India in chronological order of their formulation:
1. Model Regional and Town Planning and Development Law
2. Bombay Town Planning Act
3. Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act
4. The Constitution (74th Amendment) Act

(A) 2, 1, 4, 3
(B) 2, 4, 1, 3
(C) 1, 2, 4, 3
(D) 4, 2, 1, 3

2. Under the Constitution of India, "Local Government" including municipal corporations, improvement trusts, and other local authorities is listed under which of the following?
(A) Entry 20, List III (Concurrent List)
(B) Entry 18, List II (State List)
(C) Entry 32, List I (Union List)
(D) Entry 5, List II (State List)

3. In the pre-independence context of Madhya Pradesh, which of the following cities was among the first to establish an Improvement Trust in the early 20th century to undertake structured land development and sanitation schemes?
(A) Gwalior
(B) Rewa
(C) Satna
(D) Ratlam

4. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): The Town and Country Planning Organisation (TCPO) serves purely as an advisory body to state governments in India.
Reason (R): Urban development and town planning are State subjects under the Constitution, leaving the Central Government agencies with no direct statutory planning jurisdiction over state territories.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

5. Which of the following statements correctly describes the mandate of the 12th Schedule introduced by the 74th Constitutional Amendment Act?
(A) It devolves 18 functional items, such as urban planning and land use regulation, to Municipalities.
(B) It mandates the Central Government to draft all urban master plans for major metropolitan regions.
(C) It removes the constitutional requirement for state-level town planning and regional legislation.
(D) It transfers all land acquisition powers directly to the local Ward Committees for execution.

6. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) required states to undertake several mandatory reforms to access funding. Which of the following was NOT a mandatory reform under JNNURM?
(A) Repeal of the Urban Land (Ceiling and Regulation) Act
(B) Statutory enactment of a comprehensive Public Disclosure Law
(C) Meaningful reform of existing Rent Control Laws in the state
(D) Mandatory privatization of all municipal

(B) The Town and Country Development Authority
(C) The State Environment Impact Assessment Authority (SEIAA)
(D) The MP Housing and Infrastructure Development Board

34. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): Under the MPTGNP Act 1973, an interim development plan can be implemented while the comprehensive development plan is still under preparation.
Reason (R): The interim plan provides immediate regulatory control to prevent haphazard development that could compromise the objectives of the forthcoming final master plan.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

35. Under the MP Nagar Tatha Gram Nivesh Adhiniyam 1973, what is the consequence for a person who carries out land development without the permission required under Section 24?
(A) The development is automatically regularized after a two-year period.
(B) The Director may issue a notice requiring the owner to stop work or restore the land to its original state.
(C) The land title is immediately transferred to the local Municipal Corporation.
(D) The owner is exempt from all future property taxes as a penalty.

36. According to the MPTGNP Act 1973, which of the following is NOT included in the definition of "Development" of land?
(A) Carrying out building, engineering or mining operations
(B) Making any material change in the use of any building or land
(C) Normal agricultural operations and cultivation of crops
(D) Sub-division of any land

37. Match the following sections of the MP Nagar Tatha Gram Nivesh Adhiniyam 1973 (List I) with their respective provisions (List II):
List I: (Act Sections)
P. Section 13
Q. Section 17
R. Section 23
S. Section 50
List II: (Provisions)
1. Preparation of existing land use map
2. Preparation of the Draft Development Plan
3. Final Publication of Development Plan
4. Preparation of Town Development Scheme
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-3, R-2, S-4
(D) P-3, Q-4, R-1, S-2

38. Consider the following statements regarding the MP Town and Country Planning Act and choose the correct option:
Statement I: After a Development Plan has come into operation, no person shall change the use of land without the permission of the Director.
Statement II: The State Government or the Director has no power to revoke or modify a development permission once it is granted, under any circumstances.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

39. A citizen commences construction of a multistory complex without obtaining permission under the MPTGNP Act 1973. What immediate statutory action is the authority empowered to take?
(A) Confiscate the property and transfer ownership to the state treasury
(B) Issue a notice for the demolition of the unauthorized development
(C) Impose a nominal fine while allowing the construction to be completed
(D) Revoke the citizen's primary voting rights in the upcoming elections

40. Consider the following powers regarding the Director of Town and Country Planning under the MPTGNP Act 1973:
1. Preparation of regional plans and

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central government for distribution

13. In the context of Madhya Pradesh, the state government repealed the Urban Land (Ceiling and Regulation) Act, 1976. What was the immediate regulatory intent behind adopting the repeal?
(A) To unlock vacant urban land for housing and residential development
(B) To freeze all real estate development activity in designated urban areas
(C) To shift all local planning powers exclusively to Central Government agencies
(D) To increase the base FAR for all existing slums without additional criteria

14. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): The Land Acquisition Act of 1894 was heavily criticized and eventually replaced by the LARR Act 2013.
Reason (R): The 1894 Act lacked provisions for the mandatory rehabilitation and resettlement of displaced persons and relied heavily on the arbitrary use of the "urgency clause".
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

15. Which of the following statements correctly identifies a key mandate of the Forest Conservation Act 1980 regarding land use change?
(A) Urban master plans can automatically de-reserve forest land without prior permission.
(B) State governments have absolute authority to alter forest boundaries for industry.
(C) Forest lands can be acquired using the urgency clause without any environmental review.
(D) Central Government approval is mandatory for diverting forest land to non-forest use.

16. Which of the following is NOT an exception or exemption typically available under the standard application of a Social Impact Assessment (SIA) in the LARR Act 2013?
(A) Land acquired specifically for national security and defense purposes
(B) Land acquired under the strict application of the urgency clause (Section 40)
(C) Land acquired for standard housing schemes by a private developer
(D) Land acquired for specified linear infrastructure projects in some state rules

17. Match the following Central Acts (List I) with their corresponding regulatory focus (List II):
List I: (Central Acts)
P. Real Estate (Regulation and Development) Act
Q. Environment Protection Act
R. Persons with Disabilities Act
S. Ancient Monuments and Archaeological Sites and Remains Act
List II: (Regulatory Focus)
1. Protection of heritage structures and regulated zones
2. Barrier-free environment and universal accessibility in public buildings
3. Transparency in buyer-developer transactions
4. Regulation of eco-sensitive zones and pollution control
(A) P-4, Q-3, R-1, S-2
(B) P-3, Q-4, R-2, S-1
(C) P-3, Q-2, R-4, S-1
(D) P-1, Q-4, R-2, S-3

18. Consider the following statements regarding the Right to Fair Compensation and Transparency in LARR Act 2013 and choose the correct option:
Statement I: It requires the consent of at least 80% of affected families for acquiring land for private companies.
Statement II: It requires the consent of at least 70% of affected families for acquiring land for public-private partnership (PPP) projects.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

19. A development authority in MP wants to construct a bus terminal and needs to acquire private agricultural land. Under the LARR Act 2013, how is "solatium" defined?
(A) A 100% additional amount on market value

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to compensate for compulsory acquisition
(B) A mandatory deduction from the final compensation for infrastructure development fees
(C) A fixed sum of exactly Rs. 10 Lakhs provided to every individual affected family
(D) An interest rate applied only to delayed compensation payments after the award

20. Consider the following statements regarding the regulatory interface of the Environment Protection Act (EPA) 1986 with urban planning:
1. The EPA empowers the central government to restrict areas in which any industries or processes shall not be carried out.
2. The Environmental Impact Assessment (EIA) notification issued under EPA mandates environmental clearance for large-scale township and area development projects.
3. The EPA explicitly supersedes the state-level Town and Country Planning Acts for all local zoning violations.
4. Coastal Regulation Zones (CRZ) are notified under the powers granted by the EPA.

Which of the above statements are correct?
(A) 2, 3, and 4
(B) 1, 2, and 3
(C) 1, 2, and 4
(D) 1, 3, and 4

21. Arrange the following sequential steps of land acquisition as prescribed by the LARR Act 2013 in the correct chronological order:
1. Publication of Preliminary Notification
2. Preparation of Rehabilitation and Resettlement (R&R) Scheme
3. Conduct of Social Impact Assessment (SIA) study
4. Passing of the Final Award by the Collector

(A) 1, 3, 2, 4
(B) 3, 1, 2, 4
(C) 3, 2, 1, 4
(D) 1, 2, 3, 4

22. According to the Ancient Monuments and Archaeological Sites and Remains (AMASR) Act 1958, what is the extent of the "prohibited area" around a centrally protected monument where no new construction is allowed?
(A) 50 meters in all directions
(B) 100 meters in all directions
(C) 200 meters in all directions
(D) 300 meters in all directions

23. The Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, a pivotal planning legislation for the state, was enacted in which year?
(A) 1965
(B) 1973
(C) 1984
(D) 1999

24. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): Rent Control Acts in Indian states were originally enacted to protect tenants from arbitrary eviction and unfair rent hikes.
Reason (R): Over the long term, stringent Rent Control Acts have historically encouraged landlords to invest heavily in the maintenance and expansion of their rental housing stock.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

25. Which of the following statements correctly identifies the status of the National Building Code (NBC) 2016 in the regulatory framework?
(A) It is a mandatory central law that strictly overrides all state municipal bye-laws.
(B) It only applies to construction projects funded directly by the Central Government.
(C) It is an international treaty adopted by India specifically for heritage conservation.
(D) It is an advisory model code serving as a guideline for state building bye-laws.

26. Under the LARR Act 2013, which of the following is NOT considered a valid "public purpose" for land acquisition?
(A) Acquisition for a private commercial shopping mall for a developer's profit
(B) Projects intended for providing housing to lower income groups
(C) Projects for agro-processing and cold storage facility establishment
(D) Projects for educational and research

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institutions recognized by the State

27. Match the following chapters/parts of the National Building Code (NBC) 2016 (List I) with their subject matter (List II):
List I: (NBC Part)
P. Part 3
Q. Part 4
R. Part 8
S. Part 9
List II: (Subject Matter)
1. Fire and Life Safety
2. Development Control Rules and General Building Requirements
3. Plumbing Services
4. Building Services (Lighting, Ventilation, Electrical)
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-2, Q-3, R-1, S-4
(D) P-4, Q-1, R-2, S-3

28. Consider the following statements regarding the RERA 2016 and choose the correct option:
Statement I: Under RERA, a developer must deposit 70% of the funds collected from allottees into a separate escrow account to cover the cost of construction and land.
Statement II: RERA makes it mandatory for a developer to sell properties based on the "carpet area" to ensure transparency.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

29. A town planner is designing a public library in MP. To comply with the Rights of Persons with Disabilities (RPWD) Act 2016, which of the following best represents an application of this Act?
(A) Providing ramps, tactile paving, and accessible washroom facilities for users
(B) Ensuring a minimum of 50% of the plot area is left as open green space
(C) Limiting the maximum building height to exactly 15 meters for all structures
(D) Installing solar panels and rainwater harvesting systems on the rooftop

30. Consider the following provisions regarding the Madhya Pradesh Town and Country Planning Act, 1973:
1. It provides for the constitution of regional planning boards.
2. It empowers the Director to prepare the existing land-use maps.
3. It limits the state government from modifying final development plans once approved.
4. It outlines procedures for the regularisation of unauthorized development under specific conditions.
Which of the above statements are correct?
(A) 2, 3, and 4
(B) 1, 3, and 4
(C) 1, 2, and 4
(D) 1, 2, and 3

31. In the context of RERA 2016, the "carpet area" of an apartment is defined as the net usable floor area. Which of the following is specifically excluded from this calculation?
(A) Area covered by the internal partition walls within the apartment unit
(B) The standard living room and primary bedroom floor areas
(C) The functional kitchen and attached bathroom floor areas
(D) Area of external walls, services shafts, and exclusive balconies

32. Under the MP Nagar Tatha Gram Nivesh Adhiniyam 1973, who is primarily empowered to declare a specific geographical extent as a "Planning Area"?
(A) The District Collector of the concerned administrative district
(B) The Director of Town and Country Planning acting solely on merit
(C) The State Government through a formal gazette notification
(D) The Mayor of the Municipal Corporation within the proposed area

33. Which specific authority is constituted under the MP Nagar Tatha Gram Nivesh Adhiniyam 1973 to secure orderly development and execute schemes?
(A) The District Planning Committee for rural-urban integration

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urban water supply systems

7. Match the following early planning legislation (List I) with their respective primary objectives or features (List II):
List I: (Planning Legislation)
P. Bombay Town Planning Act, 1915
Q. Calcutta Improvement Act, 1911
R. Model Town Planning Law, 1985
S. 74th CAA, 1992
List II: (Objectives/Features)
1. Emphasized opening up congested areas and laying out new streets
2. Introduced land pooling and town planning schemes
3. Constitutional status to District Planning Committees
4. Provided a template for state-level regional planning acts
(A) P-1, Q-2, R-4, S-3
(B) P-2, Q-1, R-4, S-3
(C) P-2, Q-1, R-3, S-4
(D) P-4, Q-3, R-1, S-2

8. Consider the following statements regarding the Model Municipal Law (2003) and choose the correct option:
Statement I: It was designed to guide states in amending their municipal acts to align with the 74th CAA.
Statement II: It strictly prohibits municipalities from entering into Public-Private Partnerships for urban infrastructure.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

9. An industrial city is transitioning its administrative framework to align with the 74th Constitutional Amendment Act. It must establish a District Planning Committee (DPC). According to the constitutional provisions, what is the primary role of this DPC?
(A) To evaluate and approve environmental clearances for mega industrial projects
(B) To act as a secondary appellate authority against the decisions of the State RERA
(C) To acquire land for central government highway projects under the LARR framework
(D) To consolidate draft plans prepared by the Panchayats and Municipalities in the district

10. Consider the following statements regarding the evolution of planning laws across states in India:
1. The Bombay Town Planning Act of 1915 is widely regarded as the first structured town planning legislation in India.
2. Most state Town and Country Planning Acts enacted post-independence closely mirrored the British Town and Country Planning Act of 1947.
3. The Model Regional and Town Planning and Development Law of 1985 mandated states to abolish State Town and Country Planning Boards.
4. Kerala and West Bengal enacted distinct legislative frameworks emphasizing decentralized local-level planning.
Which of the above statements are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 2, and 3
(D) 1, 3, and 4

11. Under a classical Town Planning Scheme (TPS) mechanism, land parcels are pooled, reshaped, and returned to original owners. If an owner's original plot size was 1000 sq.m and the scheme deducts 40% for public purposes, while the land value appreciates by 300%, what core principle facilitates this?
(A) Compulsory acquisition under the traditional power of Eminent Domain
(B) Land readjustment involving proportional capture of value increments
(C) Strict application of rent control and price stabilization measures
(D) Direct land ceiling expropriation with no return of reconstituted land

12. What was the primary objective of the Urban Land (Ceiling and Regulation) Act, 1976 prior to its repeal?
(A) To facilitate large-scale foreign direct investment in the urban real estate sector
(B) To prevent the concentration of land in few hands and curb speculation
(C) To mandate vertical construction and high FAR across all metropolitan cities
(D) To transfer all private urban lands to the

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development plans
2. Granting, refusing, or modifying development permissions
3. Directly acquiring land across the state using eminent domain
4. Carrying out inspections of land and buildings for enforcing plan provisions

Which of the above powers are correct?
(A) 1, 3, and 4
(B) 2, 3, and 4
(C) 1, 2, and 4
(D) 1, 2, and 3

41. Arrange the following steps for the preparation of a Development Plan under the MP Nagar Tatha Gram Nivesh Adhiniyam 1973 in the correct chronological order:
1. Publication of the Draft Development Plan
2. Preparation of Existing Land Use Map
3. Final sanction by the State Government
4. Hearing of objections and suggestions from the public

(A) 2, 1, 4, 3
(B) 1, 2, 4, 3
(C) 2, 4, 1, 3
(D) 1, 4, 2, 3

42. Under standard Development Control Regulations (DCPR) in MP, what is the meaning of "FAR" (Floor Area Ratio)?
(A) Total floor area of all levels divided by the total plot area.
(B) Total plot area divided by the built-up area of the ground floor.
(C) The ratio of the abutting road width to the building's height.
(D) The maximum permissible area for parking on the ground floor.

43. Which of the following legislations specifically deals with providing residential land rights to the landless poor in rural areas of Madhya Pradesh?
(A) MP Real Estate Regulatory Act (RERA)
(B) MP Bhu-Adhikar (Swaamitv) Act / Mukhyamantri Awasiya Bhu-adhikar Yojana
(C) MP Municipal Corporation Act, 1956
(D) MP Fire Services Act and Regulations

44. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): In Madhya Pradesh DCPR, the permissible FAR for a plot usually increases with the increase in the width of the abutting road.
Reason (R): Wider roads have higher carrying capacity for traffic, utility lines, and overall infrastructure, enabling them to support higher population densities and vertical growth.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

45. Which of the following statements regarding the "Ground Coverage" restriction in building byelaws is correct?
(A) It is the maximum plot area covered by the building footprint.
(B) It dictates the absolute maximum vertical height a building can reach.
(C) It mandates the exact interior room layout of the ground floor level.
(D) It requires developers to construct underground parking for all plots.

46. According to standard MP Development Control and Promotion Regulations, which of the following uses is generally NOT permitted within a designated "Green Belt"?
(A) Public parks and playgrounds
(B) Botanical gardens and nurseries
(C) Hazardous chemical manufacturing units
(D) Open-air sports facilities

47. Match the following land use zones typically found in a Development Plan (List I) with their conventional color coding used in master plan maps in India (List II):
List I: (Land Use Zone)
P. Residential Zone
Q. Commercial Zone
R. Industrial Zone
S. Recreational / Green Zone
List II: (Color Code)
1. Purple
2. Yellow

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3. Blue
4. Green

(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-1, S-4

48. Consider the following statements regarding setbacks in building regulations and choose the correct option:
Statement I: Setbacks are mandated primarily to ensure natural light, ventilation, and access for emergency services like fire tenders.
Statement II: Front setback requirements remain constant regardless of the plot size or abutting road width.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

49. A developer is planning a 5-hectare residential layout. According to the MP Bhumi Vikas Niyam, what mandatory provision must be made regarding inclusive housing?
(A) Hand over 50% of the developed plots free of cost to the municipal corporation.
(B) Reserve a percentage of land for EWS and LIG housing categories.
(C) Ensure all individual plots are strictly above 1000 sq.m in total size.
(D) Construct a commercial mall within the layout to subsidize housing costs.

50. Consider the following statements regarding the regularisation of unauthorized constructions (Shaman) in MP:
1. Compounding of offenses is permitted up to a certain percentage of extra FAR upon payment of a compounding fee.
2. Constructions encroaching on public roads or government lands cannot be regularised.
3. Violations of structural safety and fire norms can be freely regularised if the owner pays double the standard fee.
4. Regularisation policies aim to balance strict enforcement with the practical reality of minor deviations.

Which of the above statements are correct?
(A) 1, 3, and 4
(B) 2, 3, and 4
(C) 1, 2, and 3
(D) 1, 2, and 4

51. An urban local body in MP offers "Premium FSI" to a developer. How is Premium FSI conceptually applied in development control?
(A) It allows additional FAR upon payment of a premium fee.
(B) It reduces the ground coverage limits to encourage underground building.
(C) It allows the developer to bypass all fire safety regulations.
(D) It requires the developer to transfer their land rights to the state.

52. In Madhya Pradesh, an application for development permission granted under the MPTGNP Act 1973 shall ordinarily remain valid for a period of:
(A) 1 year
(B) 3 years
(C) 5 years
(D) 10 years

53. For heritage zones in historical cities, which of the following is most likely to be restricted?
(A) Changes to building facades and architectural character.
(B) Necessary repair of internal residential water pipelines.
(C) Change in legal ownership or title of the property.
(D) Mandatory payment of standard municipal property taxes.

54. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): Development in eco-sensitive zones, such as the catchment areas of major lakes, is subject to stringent ground coverage and FAR restrictions.
Reason (R): High-density development and excessive paving in catchment areas can drastically reduce groundwater recharge and increase the risk of lake pollution and urban flooding.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.

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(C) A is true but R is false.
(D) A is false but R is true.

55. Which of the following statements accurately describes Transferable Development Rights (TDR)?
(A) TDR is the absolute right of the government to acquire private land without any compensation.
(B) TDR is a mechanism granting development potential as a certificate for use elsewhere.
(C) TDR is a tax specifically levied on developers for transferring property titles to buyers.
(D) TDR mandates that developers must transfer 100% of their constructed flats to the local authority.

56. When applying for building permission in MP, which of the following is NOT typically a required document?
(A) Title deed or proof of ownership
(B) Site plan prepared by a registered architect
(C) A psychological assessment of the building owner
(D) Structural safety certificate

57. Match the following land records terms (List I) with their meanings (List II):
List I: (Land Record Term)
P. Khasra
Q. B-1 (Khatouni)
R. Patwari
S. Nazul land
List II: (Meaning)
1. Government land in urban areas used for non-agricultural purposes
2. Record of land ownership and rights
3. Plot/Survey number registry detailing crops, area, and ownership
4. Village level revenue official
(A) P-2, Q-3, R-1, S-4
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-1, R-3, S-2
(D) P-3, Q-2, R-4, S-1

58. Consider the following statements regarding the amalgamation of plots and choose the correct option:
Statement I: Amalgamation of two adjacent plots is often permitted to allow for a larger unified building block, subject to combined zoning regulations.
Statement II: Once amalgamated, the new FAR is strictly limited to 50% of the lowest FAR of the original individual plots to discourage densification.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

59. A developer constructs a 30-meter high residential apartment. What critical provision must be explicitly demonstrated around the perimeter?
(A) A moat filled with water for aesthetic and cooling purposes.
(B) A 6m-7.5m open setback driveway for fire engine movement.
(C) A completely enclosed glass boundary wall around the plot.
(D) Commercial shops situated on the entire boundary line.

60. Consider the following features regarding the MP Unified Building Bye-laws (Bhumi Vikas Niyam):
1. They attempt to standardize building regulations across various municipal bodies in the state.
2. They incorporate provisions for rainwater harvesting in buildings above a certain plot size.
3. They provide norms for solar water heating systems in specified building categories.
4. They abolish all FAR restrictions for institutional buildings.
Which of the above statements are correct?
(A) 1, 2, and 4
(B) 1, 2, and 3
(C) 2, 3, and 4
(D) 1, 3, and 4

61. Arrange the following steps involved in the process of calculating and disbursing compensation under the LARR Act 2013 in the correct chronological order:
1. Determination of base market value of the land
2. Application of the multiplier based on distance from the urban area
3. Addition of the value of assets attached to

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the land (trees, buildings)
4. Addition of 100% solatium on the total determined value

(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 3, 1, 4, 2

62. Under the LARR Act 2013, Section 40 deals with the "Urgency Clause". When the urgency clause is invoked, which of the following mandatory steps can be exempted?
(A) Payment of compensation
(B) Issuing the preliminary notification
(C) Conducting the Social Impact Assessment (SIA)
(D) Taking possession of the land

63. In Madhya Pradesh, for rural lands located far from urban local bodies, what is the maximum factor by which the market value is multiplied?
(A) 1.0
(B) 1.5
(C) 2.0
(D) 5.0

64. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): Land pooling or town planning schemes are increasingly preferred over compulsory land acquisition for urban expansion.
Reason (R): Land pooling involves forced eviction without compensation, making it financially cheaper for the development authority.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. Which of the following statements is correct regarding the Rehabilitation and Resettlement (R&R) entitlements under the LARR Act 2013?
(A) R&R entitlements are provided only to the legal titleholders of the land.
(B) Entitlements cover titleholders and long-term dependent livelihood losers.
(C) R&R compensation is deducted from the land value compensation total.
(D) The state government has no obligation to provide R&R for small projects.

66. According to the First Schedule of the LARR Act 2013, which of the following components is NOT factored into the final calculation of compensation?
(A) Market value of the land
(B) Value of things attached to the earth (trees, structures)
(C) Solatium equivalent to 100% of the market value plus value of assets
(D) Future speculative land value post-development

67. Match the following Schedules of the LARR Act 2013 (List I) with their respective focus areas (List II):
List I: (Act Schedule)
P. First Schedule
Q. Second Schedule
R. Third Schedule
S. Fourth Schedule
List II: (Focus Area)
1. Elements of Rehabilitation and Resettlement entitlements
2. Compensation for land owners
3. List of enactments regulating land acquisition to which LARR applies
4. Provision of infrastructural amenities for resettlement areas

(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-4, S-2

68. Consider the following statements regarding the acquisition of multi-cropped irrigated land under the LARR Act 2013 and choose the correct option:
Statement I: The Act generally prohibits the acquisition of multi-cropped irrigated land to safeguard food security.
Statement II: Under exceptional circumstances, multi-cropped irrigated land can be acquired, provided an equivalent area of culturable wasteland is developed for agricultural purposes.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false

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(D) Statement I is false but Statement II is true

69. A long-term tenant is living in a house on land acquired under the LARR Act 2013. How does the Act address the tenant's situation?
(A) The tenant is eligible for shifting allowance or housing entitlements.
(B) The tenant is evicted without any rights as they do not hold title.
(C) The tenant must pay a penalty to the government for illegal stay.
(D) The tenant is given the entire land compensation instead of the owner.

70. Consider the following mechanisms often used as alternatives to traditional compulsory land acquisition for urban development:
1. Town Planning Schemes (Land Pooling)
2. Transferable Development Rights (TDR)
3. Direct Mutual Negotiation and Purchase
4. Forced expropriation without compensation
Which of the above are legally valid and recognized alternative mechanisms?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

71. Under standard methods, how is the "Market Value" typically determined under the LARR Act 2013?
(A) By selecting the lowest registered sale deed in the village over ten years.
(B) By averaging the top 50% of the highest value deeds in three years.
(C) By simply asking the land owner for their expected asking price.
(D) By using the property tax assessment value divided by a factor of two.

72. Which institution acts as the primary nodal agency for the implementation of the Smart Cities Mission and AMRUT projects in Madhya Pradesh?
(A) MP Town and Country Planning Department
(B) MP State Election Commission
(C) Madhya Pradesh Urban Development Company (MPUDC)
(D) State Finance Commission

73. What is the primary role of the Madhya Pradesh Housing and Infrastructure Development Board (MPHIDB)?
(A) To purely act as a regulatory body issuing building permissions.
(B) To draft the master plans for all cities in the state territory.
(C) To manage the city bus transport systems for all municipal areas.
(D) To assemble land and construct housing for various income groups.

74. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): Special Purpose Vehicles (SPVs) created under the Smart Cities Mission in MP operate with a high degree of financial and administrative autonomy.
Reason (R): They are completely private companies with no government equity or board representation, designed to bypass municipal laws.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

75. Which of the following statements correctly identifies the legislative provision regarding Regional Plans under the MPTGNP Act 1973?
(A) Regional plans must strictly cover only a single municipal boundary.
(B) The State may form a Regional Planning Board for designated areas.
(C) Regional plans are prepared directly by the NITI Aayog for the state.
(D) The Act does not contain any provision for regional scale planning.

76. The LARR Act 2013 mandates a Social Impact Assessment (SIA). Which of the following projects is strictly exempted from undergoing an SIA under the central Act's standard provisions?
(A) A private university campus
(B) Projects related to national security and defense of India
(C) A public-private partnership hospital
(D) Irrigation and hydroelectric dams

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(A) A standard Municipal Ward.
(B) A Planning Area notified under the MPTGNP Act.
(C) A basic Zila Panchayat Area.
(D) A designated Cantonment Area.

108. Which of the following statements correctly identifies the constitutional article introduced by the 74th CAA that mandates the creation of the District Planning Committee (DPC)?
(A) Article 243Q
(B) Article 243W
(C) Article 243ZD
(D) Article 243ZE

109. Which of the following is an exception to the strict registration requirements under the Real Estate (Regulation and Development) Act 2016?
(A) Projects with completion certificates received prior to the Act.
(B) Projects where the total land area is exactly 1000 square meters.
(C) Projects involving the construction of exactly 20 apartments.
(D) Projects aimed exclusively at commercial retail spaces for sale.

110. Consider the following statements regarding the Environmental Impact Assessment (EIA) Notification under the EPA 1986 and choose the correct option:
Statement I: It categorizes projects into Category A (cleared by Central Govt) and Category B (cleared by State Govt).
Statement II: Township and Area Development projects are strictly categorized as Category A regardless of their built-up area.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

111. A builder illegally enclosed a refuge area and sold it as a flat. Under which two frameworks will the builder be primarily prosecuted?
(A) AMASR Act 1958 and MPTGNP Act 1973
(B) Forest Conservation Act and Land Acquisition Act
(C) Rent Control Act and ULCRA
(D) Fire Services Act/NBC and RERA 2016

112. Calculate the final compensation under LARR 2013: base market value Rs. 10 Lakhs, urban multiplier 1.0, assets Rs. 2 Lakhs, and standard solatium.
(A) Rs. 12 Lakhs
(B) Rs. 14 Lakhs
(C) Rs. 24 Lakhs
(D) Rs. 30 Lakhs

113. Which of the following is NOT a primary thematic area or chapter explicitly regulated under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973?
(A) Preparation of Regional Plans
(B) Control of Development and Use of Land
(C) Establishment of Town and Country Development Authorities
(D) Regulation of Inter-state Migrant Construction Laborers

114. Which of the following pairs related to Madhya Pradesh state schemes/bodies is correctly matched?
(A) MPUDC - Rural agriculture financing
(B) MP RERA - Protection of monument sites
(C) CMUIDS - National highway toll collection
(D) EPCO - State-level environmental planning

115. What is the most appropriate description of the primary role of the Town and Country Planning Organisation (TCPO)?
(A) Apex technical advisory body to the Central Ministry on planning.
(B) To sanction building plans for all state capitals in India.
(C) To distribute municipal tax revenues directly to local bodies.
(D) To acquire land for special economic zones across the country.

116. Under the AMASR Act 1958, what is the distance limit of the "regulated area" that extends beyond the prohibited area?
(A) 100 meters
(B) 200 meters
(C) 500 meters
(D) 1000 meters

117. Under the MP RERA Rules, an aggrieved homebuyer dissatisfied with a decision can file an appeal with which body?

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(B) The Central Government
(C) The Municipal Commissioner
(D) The Zila Panchayat

84. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): The Right to Fair Compensation and Transparency in LARR Act 2013 has significantly increased the time taken to complete land acquisition for public projects.
Reason (R): The Act introduces mandatory procedural layers such as Social Impact Assessment, consent clauses, and comprehensive R&R plan preparation, which demand thorough fieldwork and public hearings.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

85. Which of the following statements is correct regarding the application of the MP Town and Country Planning Act to rural areas?
(A) The Act applies to areas notified as a "Planning Area" by the state.
(B) The Act applies universally to all rural areas in the state by default.
(C) Rural areas are completely banned from being included in any planning area.
(D) Gram Panchayats are solely responsible for drafting Master Plans under this Act.

86. Which of the following properties is strictly exempted from standard setback and open space regulations?
(A) High-rise residential apartments with more than ten stories
(B) Large commercial malls located in designated shopping zones
(C) Government offices and public institutional buildings
(D) No building is fully exempt; minor exceptions apply to watchman cabins.

87. Match the following planning concepts/tools (List I) with their operational mechanism (List II):
List I: (Planning Concept)
P. Land Pooling
Q. Eminent Domain
R. TDR
S. Zoning
List II: (Operational Mechanism)
1. Compulsory acquisition by state power
2. Segregation of land uses to prevent incompatibility
3. Reconstitution of plots with proportional deduction for public use
4. Severance of development potential from land ownership
(A) P-1, Q-3, R-2, S-4
(B) P-3, Q-1, R-4, S-2
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

88. Consider the following statements regarding the Fire Services Act and its integration with planning and choose the correct option:
Statement I: Fire safety norms such as external staircases, refuge areas, and fire tender pathways are mandatory for all high-rise buildings above 15 meters.
Statement II: Fire clearance (NOC) is generally not required for standalone single-family bungalows of 10 meters height.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

89. A developer wants to build on a plot recorded as forest land. What specific regulatory clearance is required?
(A) Clearance from the Real Estate Regulatory Authority (RERA)
(B) Clearance under the Ancient Monuments and Archaeological Sites Act
(C) Clearance from the District Planning Committee for land conversion
(D) Clearance under the Forest Conservation Act 1980 for diversion

90. Consider the following statements about the role of the Town and Country Development Authority (TCDA) in MP:
1. It is responsible for executing town development schemes.
2. It is empowered to acquire land for implementing its schemes.

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17. (B) P-3, Q-4, R-2, S-1
Specific central acts regulate different aspects of the built environment. RERA ensures transparency in real estate transactions, while the Environment Protection Act manages eco-sensitive zones. The Rights of Persons with Disabilities Act mandates universal accessibility in buildings. Finally, the Ancient Monuments Act provides for the protection of heritage structures and establishes regulated zones to prevent unauthorized construction near monuments.

18. (A) Both Statement I and Statement II are true
The 2013 Act introduced specific consent requirements to protect landowners. For land acquisition intended for use by private companies, the consent of at least eighty percent of the affected families is mandatory. For public-private partnership projects, the threshold is set at seventy percent. These provisions ensure that a significant majority of the local community agrees to the proposed land acquisition.

19. (A) A 100% additional amount on market value to compensate for compulsory acquisition
In the context of the 2013 Act, solatium is a mandatory additional payment provided to landowners to compensate for the involuntary nature of the acquisition. It is calculated as one hundred percent of the total compensation amount determined based on the market value of the land and the value of assets attached to it. This effectively doubles the base compensation for the owner.

20. (C) 1, 2, and 4
The Environment Protection Act serves as a comprehensive framework for ecological regulation. It empowers the central government to restrict industrial activities in specific areas and mandates environmental clearances for large townships through the EIA notification. It also provides the legal basis for notifying Coastal Regulation Zones. However, it does not broadly supersede state planning acts for all minor local zoning violations.

21. (B) 3, 1, 2, 4
The land acquisition process under the 2013 Act follows a rigorous statutory sequence. It begins with the conduct of a Social Impact Assessment study to evaluate project effects. This is followed by the publication of a preliminary notification. Subsequently, a comprehensive rehabilitation and resettlement scheme is prepared. The process concludes with the passing of the final award by the district collector.

22. (B) 100 meters in all directions
To protect the structural integrity and aesthetic environment of centrally protected monuments, the law defines specific buffer zones. A prohibited area is established extending one hundred meters in all directions from the monument's boundary. Within this zone, all new construction activities are strictly forbidden to prevent damage and maintain the historical context of the site from encroaching modern developments.

23. (B) 1973
The Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam was enacted in 1973 to provide a comprehensive legal framework for town and country planning in the state. This Act governs the preparation of development plans, the establishment of town and country development authorities, and the regulation of land use and development across various planning areas designated within Madhya Pradesh.

24. (C) A is true but R is false.
Rent Control Acts were originally designed to protect tenants from arbitrary evictions and excessive rent increases by landlords. However, over the long term, these stringent regulations often had the unintended effect of discouraging landlords from investing in maintenance or expanding the housing stock. The frozen rents often did not cover the costs of repairs, leading to the deterioration of older buildings.

25. (D) It is an advisory model code serving as a guideline for state building bye-laws.
The National Building Code of India is a comprehensive document that provides guidelines for regulating building construction activities. It is not a mandatory central law but serves as an advisory model code. State governments and local bodies are encouraged to adopt its provisions and integrate them into their respective building bye-laws to ensure structural safety, fire protection, and health standards.

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Assessment Authority (SEIAA) and choose the correct option:
Statement I: SEIAA grants environmental clearance for category 'B' building and construction projects.
Statement II: SEIAA clearances are strictly optional for projects exceeding 1,500,000 sq.m of built-up area.
(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

99. A layout plan shows a 6m internal approach road for 100 residential plots. What is the regulatory issue here?
(A) Large layouts require wider roads for circulation and fire tender access.
(B) The road is too wide and will cause dangerous vehicle speeding.
(C) Internal roads must strictly be pedestrian-only according to the code.
(D) There is no regulatory issue; 6 meters is a globally accepted standard.

100. Consider the following components of the compensation formula under the LARR Act 2013:
1. Basic market value of land
2. Multiplier for distance from urban area
3. Value of assets attached to the land
4. 100% Solatium
Which of the above are calculated to derive the final award amount?
(A) 1 and 4 only
(B) 1, 2, and 4 only
(C) 1, 2, 3, and 4
(D) 1, 3, and 4 only

101. Which of the following pairs of Planning/ Regulatory Acts and their respective years of enactment is incorrectly matched?
(A) Urban Land (Ceiling and Regulation) Act - 1976
(B) Environment Protection Act - 1986
(C) LARR Act - 2005
(D) Real Estate (Regulation and Development) Act - 2016

102. Identify the incorrect pair regarding permissible land uses in standard DCPR:
(A) Residential Zone - Primary health center
(B) Commercial Zone - Multi-screen cinema
(C) Public/Semi-Public Zone - University campus
(D) Recreational Zone - Heavy manufacturing unit

103. Which is the most appropriate land assembly technique for revitalizing congested, irregularly shaped inner-city areas?
(A) Bulk land acquisition under the traditional urgency clause mechanism.
(B) Land readjustment / Town Planning Scheme with minor realignments.
(C) Declaring the entire area a protected monument zone for preservation.
(D) Complete demolition and forced relocation of all local residents.

104. A plot measures 20m x 30m. The permissible FAR is 1.5. If the maximum permissible ground coverage is 40%, what is the maximum built-up area allowed on the plot?
(A) 240 sq.m
(B) 600 sq.m
(C) 900 sq.m
(D) 1500 sq.m

105. An urban project requires diverting 10 hectares of protected forest land. Under the Forest Conservation Act 1980, who must grant prior approval?
(A) The Municipal Commissioner
(B) The Chief Minister
(C) The Director of Town and Country Planning
(D) The Central Government (MoEFCC)

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106. The foundational legal framework governing the constitution and functioning of Municipal Corporations in Madhya Pradesh is derived from which Act?
(A) MP Municipal Corporation Act, 1956
(B) MP Nagar Tatha Gram Nivesh Adhiniyam, 1973
(C) MP Panchayat Raj Avam Gram Swaraj Adhiniyam, 1993
(D) MP Bhoomi Vikas Niyam, 2012

107. The Indore Development Authority (IDA) exercises its functional jurisdiction over an area explicitly defined as:

ANSWERS

1. (A) 2, 1, 4, 3
The evolution of planning legislation in India began with the Bombay Town Planning Act in 1915, introducing land pooling mechanisms. This was followed by the Model Regional and Town Planning Law to guide state-level enactments. Later, the 74th Constitutional Amendment Act of 1992 empowered local bodies, and the LARR Act of 2013 reformed land acquisition and resettlement processes.

2. (D) Entry 5, List II (State List)
The constitutional framework of India categorizes legislative powers into three lists within the Seventh Schedule. The subject of local government, which encompasses municipal corporations, improvement trusts, and other district authorities, is explicitly placed under the State List. This designation grants state legislatures the primary authority to enact laws governing the administration, constitution, and functions of these local bodies.

3. (A) Gwalior
During the pre-independence era, Gwalior was a pioneer in structured urban development within the region that now constitutes Madhya Pradesh. In the early twentieth century, specifically around 1912, the city established an Improvement Trust. This body was tasked with implementing organized land development schemes and improving sanitation infrastructure to manage urban growth and enhance public health standards effectively.

4. (A) Both A and R are true and R is the correct explanation of A.
Urban development and town planning are constitutionally designated as State subjects in India. Consequently, the Town and Country Planning Organisation operates as a central technical advisory wing providing guidance rather than exercising statutory jurisdiction over state territories. State governments retain the ultimate legal authority to prepare and implement planning legislation, making the central body's role purely supportive and consultative.

5. (A) It devolves 18 functional items, such as urban planning and land use regulation, to Municipalities.
The 74th Constitutional Amendment Act aimed to strengthen urban local governance by providing a clear framework for decentralization. It introduced the Twelfth Schedule, which enumerates eighteen specific functional responsibilities for municipalities. These functions include urban planning, regulation of land use, construction of buildings, and social and economic development planning, ensuring that local authorities have the mandate to manage city growth.

6. (D) Mandatory privatization of all municipal urban water supply systems
The Jawaharlal Nehru National Urban Renewal Mission required participating states and cities to implement various pro-poor and institutional reforms. Mandatory reforms included the repeal of the Urban Land Ceiling Act, rationalization of stamp duties, and reform of rent control laws. However, the mission did not mandate the privatization of water supply systems, focusing instead on improving service delivery and governance.

7. (B) P-2, Q-1, R-4, S-3
Early planning laws addressed specific urban challenges through diverse mechanisms. The Bombay Act introduced land pooling to facilitate organized expansion, while the Calcutta Act focused on clearing congested areas. Post-independence, the Model Town Planning Law provided a template for state regional acts. Finally, the 74th Amendment gave constitutional status to District Planning Committees, integrating rural and urban development planning processes.

8. (C) Statement I is true but Statement II is false
The Model Municipal Law of 2003 was developed to assist state governments in updating their municipal legislation to comply with constitutional changes. While it provided a framework for modern urban governance, it did not prohibit public-private partnerships. In

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(A) The Real Estate Appellate Tribunal (REAT)
(B) The District Collector
(C) The Director of Town and Country Planning
(D) The local Municipal Commissioner

118. Which of the following statements correctly applies to the "Consent" clause in the LARR Act 2013?
(A) 100% consent of all landowners is required for all projects.
(B) 50% consent is required for acquiring land for private companies.
(C) The consent clause applies to all urgency clause acquisitions.
(D) Consent is not required for purely government infrastructure.

119. Which of the following is NOT typically a permitted architectural projection free of FAR under standard MP building rules?
(A) Chajja or weather shade up to a specified width
(B) An enclosed room built on a cantilever balcony
(C) Cornice or architectural band
(D) Open fire escape staircase

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120. The MP government intends to confer land tenure rights to villagers in the village "Abadi" area. Which framework applies?
(A) JNNURM Urban Mission
(B) MP Industrial Land Allotment Rules
(C) SVAMITVA Scheme (MP Bhu-Adhikar)
(D) Special Economic Zone (SEZ) Act

3. It can override the finalized Development Plan prepared by the Director.
4. It deals with the disposal and management of lands acquired under its schemes.

Which of the above statements are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

91. Which of the following correctly describes the "Accommodation Reservation" principle?
(A) Reserving land exclusively for high-end hotel and hospitality construction.
(B) Granting TDR and FAR to owners who build public amenities on their plots.
(C) Reserving seats in educational institutions for project-affected persons.
(D) The government forcefully occupying private houses for public use.

92. What is the period after which acquired land must be returned if it remains unutilized under Section 101 of the LARR Act 2013?
(A) 1 year
(B) 3 years
(C) 5 years
(D) 10 years

93. In Madhya Pradesh, which specific department is the parent body for the Directorate of Town and Country Planning?
(A) Urban Development and Housing Department (UDHD)
(B) Department of Rural Development
(C) Public Works Department (PWD)
(D) Revenue Department

94. The following question consists of two statements, an Assertion (A) and a Reason (R). Choose the correct option:
Assertion (A): The implementation of the 74th Constitutional Amendment Act has seamlessly and fully transferred the function of urban planning to all Urban Local Bodies (ULBs) in India without exceptions.
Reason (R): Development Authorities and parastatal agencies continue to exercise planning and development powers in many states despite the constitutional amendment.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

95. Which statement correctly applies to the "Retrospective operation" clause (Section 24) of the LARR Act 2013?
(A) It re-opens all land acquisitions completed since independence in 1947.
(B) It ensures additional compensation for all voluntary land sales from 2010.
(C) It invalidates all land acquisitions done under the 1894 urgency clause.
(D) Proceedings lapse if an award was made 5+ years ago without possession.

96. Which of the following elements is generally NOT a criterion for computing parking norms?
(A) The total built-up area / FAR area of the building
(B) The specific use classification of the building
(C) The architectural style of the building's facade
(D) The population of the city

97. Match the following planning documents (List I) with their typical time horizons or functional scale (List II):
List I: (Planning Document)
P. Master Plan / Development Plan
Q. Zonal Plan
R. Perspective Plan
S. Town Planning Scheme
List II: (Scale/Horizon)
1. 20-25 years macro-level vision
2. Detailed neighborhood level implementation scheme
3. Intermediate detailing between Master Plan and local layout
4. 10-20 years comprehensive city-level statutory plan
(A) P-1, Q-2, R-3, S-4
(B) P-4, Q-3, R-1, S-2
(C) P-4, Q-2, R-1, S-3
(D) P-1, Q-4, R-2, S-3

98. Consider the following statements regarding the role of the State Environment Impact

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fact, the model law encouraged private sector participation in urban infrastructure and services to enhance efficiency and bridge the funding gaps.

9. (D) To consolidate draft plans prepared by the Panchayats and Municipalities in the district
Under the constitutional provisions, the District Planning Committee is responsible for integrated planning at the district level. Its primary mandate is to consolidate the individual development plans prepared by various Panchayats and Municipalities within the district. This ensures a holistic approach to spatial planning and resource allocation, balancing the needs of both rural and urban areas within the administrative boundary.

10. (A) 1, 2, and 4
Indian town planning evolution started with the 1915 Bombay Act, followed by post-independence state acts heavily influenced by British legislation. States like Kerala and West Bengal later pioneered decentralized planning approaches. However, the 1985 Model Law did not mandate the abolition of State Town Planning Boards; instead, it sought to provide a structured framework for regional and local planning.

11. (B) Land readjustment involving proportional capture of value increments
The Town Planning Scheme mechanism utilizes land readjustment to facilitate urban development without large-scale compulsory acquisition. Owners contribute a portion of their land for public infrastructure and open spaces. Although the plot size decreases, the remaining reconstituted land typically experiences significant value appreciation due to improved amenities. This allows the authority to capture value increments to fund infrastructure and services.

12. (B) To prevent the concentration of land in few hands and curb speculation
The Urban Land Ceiling and Regulation Act was enacted in 1976 with the social objective of ensuring equitable distribution of land. It aimed to prevent a few individuals from holding vast tracts of urban land and to curb unproductive land speculation. By imposing ceilings on holdings, the legislation intended to make land available for housing for lower-income groups and public purposes.

13. (A) To unlock vacant urban land for housing and residential development
By repealing the Urban Land Ceiling Act, the state government aimed to remove the legal bottlenecks that had kept large parcels of urban land stagnant. The repeal was intended to encourage land market activity and facilitate the supply of land for residential development. This policy shift sought to address the growing demand for housing by making previously restricted lands available.

14. (A) Both A and R are true and R is the correct explanation of A.
The Land Acquisition Act of 1894 was criticized for its colonial nature and lack of social safeguards. It failed to provide for the rehabilitation of those displaced and often relied on the urgency clause to bypass public hearings. The 2013 legislation replaced it to ensure a more transparent, participatory process that guarantees fair compensation along with mandatory resettlement and rehabilitation.

15. (D) Central Government approval is mandatory for diverting forest land to non-forest use.
The Forest Conservation Act of 1980 was enacted to check deforestation and preserve ecological balance. It stipulates that no state government or authority can divert forest land for non-forest purposes, such as urban development or industry, without the prior approval of the Central Government. This ensures a high level of scrutiny and environmental oversight for any projects impacting forest ecosystems.

16. (C) Land acquired for standard housing schemes by a private developer
The 2013 Act mandates a Social Impact Assessment to evaluate the potential consequences of land acquisition on local communities. While exemptions exist for projects involving national security or those under the urgency clause for specific infrastructure, standard housing projects by private developers do not qualify for such exemptions. They must undergo the full assessment process to ensure social impacts are addressed.

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77. Match the following urban institutions in Madhya Pradesh (List I) with their primary functional domain (List II):

List I: (Institution)

P. Directorate of Town & Country Planning

Q. Development Authority (e.g., IDA, BDA)

R. MP Real Estate Regulatory Authority (RERA)

S. Urban Local Body (Nagar Nigam)

List II: (Functional Domain)

1. Provision of basic civic amenities and solid waste management
2. Preparation of Development Plans (Master Plans)
3. Execution of Town Development Schemes and land assembly
4. Redressal of homebuyer grievances and regulating promoters

(A) P-2, Q-3, R-4, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-1, R-4, S-2
(D) P-4, Q-3, R-1, S-2

78. Consider the following statements regarding litigation and delays in land acquisition and choose the correct option:

Statement I: The primary cause of litigation in land acquisition prior to LARR 2013 was disputes over adequate compensation and the invocation of the urgency clause.

Statement II: The LARR Act 2013 completely eliminates the possibility of land acquisition being challenged in the High Courts.

(A) Both Statement I and Statement II are true
(B) Both Statement I and Statement II are false
(C) Statement I is true but Statement II is false
(D) Statement I is false but Statement II is true

79. A dam project displaces several tribal families. Under the LARR Act 2013, which of the following is legally required before land acquisition?

(A) Displacing the families immediately with a one-time cash payout amount.
(B) Relocating them to an urban slum area for better job opportunities.
(C) Exempting the project from paying any solatium to the tribal owners.
(D) Obtaining prior consent from concerned Gram Sabhas under PESA.

80. Consider the following statements regarding the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh:

1. It aims to bridge the infrastructure funding gap in urban local bodies.
2. It completely replaces the property tax system in the state.
3. Funds are provided for projects like water supply, sewerage, and road construction.
4. It encourages urban local bodies to leverage institutional finance.

Which of the above statements are correct?

(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, and 4

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81. Arrange the following steps for applying for Building Permission in MP (via ABPAS - Automated Building Plan Approval System) in chronological order:

1. Online submission of architectural drawings
2. Automated scrutiny of drawings against DCPR norms
3. Payment of building permission fees and charges
4. Issuance of digitally signed building permission certificate

(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 1, 2, 4, 3

82. What is the fundamental requirement for a real estate project to require mandatory registration under MP RERA?

(A) Area of land exceeds 100 square meters or apartments exceed two.
(B) Area of land exceeds 5000 square meters or apartments exceed fifty.
(C) The project is purely commercial without any residential component.
(D) Area exceeds 500 square meters or apartments exceed eight.

83. In the context of Madhya Pradesh Town and Country Planning, which tier of government holds the final authority to sanction and publish the finalized Master Plan (Development Plan)?

(A) The State Government

26. (A) Acquisition for a private commercial shopping mall for a developer's profit
The 2013 Act restricts the use of eminent domain to projects serving a genuine public purpose. Valid purposes include housing for low-income groups, infrastructure, and educational institutions. However, acquiring land solely for a private commercial entity, such as a shopping mall intended for private profit, is not recognized as a public purpose under the statutory framework of the land acquisition legislation.

27. (B) P-2, Q-1, R-4, S-3
The National Building Code is organized into various parts covering specific technical aspects. Part Three deals with development control rules and general building requirements, while Part Four focuses on fire and life safety measures. Part Eight provides guidelines for building services such as lighting and ventilation. Part Nine covers plumbing services, including water supply and drainage systems for residential and commercial buildings.

28. (A) Both Statement I and Statement II are true
RERA introduced strict financial discipline and transparency in the real estate sector. Developers must deposit seventy percent of the funds collected from buyers into a dedicated escrow account used only for construction and land costs. Furthermore, properties must be sold based on the carpet area rather than the super built-up area, ensuring buyers pay for the actual usable floor space.

29. (A) Providing ramps, tactile paving, and accessible washroom facilities for users
The Rights of Persons with Disabilities Act mandates that all public buildings and facilities must be accessible to individuals with various disabilities. In the design of a public library, this translates into the provision of physical infrastructure such as ramps for wheelchair access, tactile paving for the visually impaired, and specifically designed washroom facilities to ensure a barrier-free and inclusive environment.

30. (C) 1, 2, and 4
The 1973 Act establishes the regulatory structure for planning in Madhya Pradesh. It allows for regional planning boards, requires existing land-use mapping, and provides for the regularisation of unauthorized developments under certain conditions. While the Act outlines the finalization of development plans, the state government retains the power to modify these plans even after approval to address changing urban needs.

31. (D) Area of external walls, services shafts, and exclusive balconies
Under the Real Estate Regulatory Act, the carpet area is defined as the net usable floor area of an apartment. While it includes the area covered by internal partition walls, it specifically excludes the area covered by external walls, service shafts, and exclusive balconies or verandas. This standardization ensures that homebuyers have a clear understanding of the actual living space they are purchasing.

32. (C) The State Government through a formal gazette notification
The designation of a specific geographical region as a planning area is a significant administrative step that triggers the application of spatial regulations. Under the 1973 Act, the primary authority to declare such an area lies with the state government. This is accomplished through a formal notification published in the official gazette, defining the boundaries where planned development control will be exercised.

33. (B) The Town and Country Development Authority
To ensure the orderly implementation of development plans and the execution of town development schemes, the 1973 Act provides for the constitution of Town and Country Development Authorities. These bodies are responsible for land assembly, infrastructure development, and the overall execution of projects within their jurisdiction, acting as the primary implementation arm of the state's urban planning framework.

34. (A) Both A and R are true and R is the correct explanation of A.
Preparing a comprehensive development plan is a time-consuming process involving detailed surveys and public consultations. To prevent uncontrolled or haphazard development during this period, the 1973 Act allows for the implementation of an interim development plan. This provides immediate regulatory oversight

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and ensures that new construction does not conflict with the long-term spatial objectives of the finalized master plan.

35. (B) The Director may issue a notice requiring the owner to stop work or restore the land to its original state.
Carrying out land development without the mandatory permissions constitutes a legal violation under the 1973 Act. In such instances, the planning authority is empowered to take enforcement actions. This typically involves the issuance of a formal notice to the property owner, directing them to immediately stop the unauthorized work or to restore the land to its original condition at their expense.

36. (C) Normal agricultural operations and cultivation of crops
The legal definition of development in planning acts usually encompasses building, engineering, and mining operations, as well as material changes in the use of land or buildings. However, routine agricultural activities, such as the cultivation of crops and normal farming operations, are generally excluded from this definition. This ensures that traditional farming practices can continue without requiring formal development permissions from urban authorities.

37. (A) P-1, Q-2, R-3, S-4
The 1973 Act is structured with specific sections governing the planning process. Section Thirteen covers the preparation of existing land-use maps, while Section Seventeen deals with the preparation of draft development plans. Section Twenty-three specifies the requirements for the final publication of these plans. Section Fifty outlines the procedures for the preparation and implementation of town development schemes by local authorities.

38. (C) Statement I is true but Statement II is false
Once a development plan is operational, all changes in land use must strictly adhere to the designated zoning and require formal permission. This ensures that growth remains consistent with the master plan. However, the state government or the director does possess the statutory power to revoke or modify permissions if they were obtained through misrepresentation or if public interest necessitates such action.

39. (B) Issue a notice for the demolition of the unauthorized development
Unauthorized construction that bypasses the mandatory approval process is subject to strict enforcement under the 1973 Act. If a citizen commences a project without permission, the planning authority has the immediate power to issue a notice for the demolition of the structure. This serves to maintain the integrity of the development plan and deter others from ignoring building regulations.

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40. (C) 1, 2, and 4
The Director of Town and Country Planning holds significant administrative and technical responsibilities, including the preparation of regional and development plans. This role also involves managing development permissions and conducting inspections to ensure compliance with the law. While the director oversees these processes, the actual power of eminent domain for land acquisition is typically exercised by the state government or specific authorities.

41. (A) 2, 1, 4, 3
The preparation of a development plan follows a logical chronological sequence. It starts with the baseline survey and preparation of the existing land-use map. This leads to the formulation and publication of the draft development plan. Subsequently, the authority holds public hearings to consider objections and suggestions. Finally, the plan is submitted to the state government for its formal sanction and approval.

42. (A) Total floor area of all levels divided by the total plot area.
Floor Area Ratio is a fundamental density control tool used in urban planning. It represents the ratio between the total built-up floor area of all stories of a building and the total area of the plot on which the building stands. This metric helps planners regulate the intensity of land use, ensuring that infrastructure can support the resulting population and activity levels.

43. (B) MP Bhu-Adhikar (Swaamitv) Act / Mukhyamantri Awasiya Bhu-adhikar Yojana
To address the needs of the rural landless poor, the Madhya Pradesh government implemented the Mukhyamantri Awasiya Bhu-adhikar Yojana. This initiative is designed to provide residential

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land rights and plots to eligible families who do not own any land. By granting these legal rights, the scheme enables poor families to build their own homes and access various social welfare benefits linked to land ownership.

44. (A) Both A and R are true and R is the correct explanation of A.
Building regulations often link the permissible Floor Area Ratio to the width of the abutting road. Wider roads are capable of handling higher volumes of traffic and accommodate larger utility networks for water, sewerage, and electricity. By allowing higher density development along these major corridors, planners can support vertical growth in areas where the infrastructure is best suited to handle the increased demand.

45. (A) It is the maximum plot area covered by the building footprint.
Ground coverage is a regulation that limits the horizontal extent of a building on a plot. It defines the maximum percentage of the plot area that can be occupied by the building's footprint. This requirement ensures that a portion of the land remains open to the sky, facilitating natural drainage, light, and ventilation while preventing the total paving of urban land.

46. (C) Hazardous chemical manufacturing units
Green belts are designated areas where development is restricted to maintain open spaces and environmental quality. Permitted uses typically include parks, playgrounds, nurseries, and botanical gardens. Industrial activities, especially hazardous chemical manufacturing units, are strictly prohibited in these zones due to their negative impact on the environment, public health risks, and incompatibility with the recreational and protective nature of green belts.

47. (D) P-2, Q-3, R-1, S-4
Master plans use standardized color coding to represent different land use zones visually. Residential zones are typically shown in yellow, while commercial areas are depicted in blue. Industrial zones are represented by purple or violet colors. Recreational areas, parks, and green belts are consistently shown in green. This convention allows for the easy interpretation of spatial planning documents by various stakeholders and the public.

48. (C) Statement I is true but Statement II is false
Setbacks are mandatory open spaces between the building and the plot boundaries, essential for ensuring natural light, ventilation, and emergency access. While Statement One is correct, Statement Two is false because setback requirements are not constant. They vary significantly depending on the size of the plot, the height of the proposed building, and the width of the road serving the property.

49. (B) Reserve a percentage of land for EWS and LIG housing categories.
The Madhya Pradesh Bhumi Vikas Niyam incorporates provisions for inclusive urban growth. For large residential layouts, developers are required to reserve a specific percentage of the land or a number of plots for Economically Weaker Sections and Low-Income Groups. This mandate ensures that urban development projects contribute to the availability of affordable housing and promote social integration within new residential neighborhoods.

50. (D) 1, 2, and 4
Regularisation policies in Madhya Pradesh allow for the compounding of certain building violations upon payment of a fee, provided they do not exceed specific limits. However, encroachments on public land or government properties are strictly excluded from such schemes. While the policy aims to be practical, violations that compromise fundamental structural safety or fire norms are not easily regularized due to the high risks involved.

51. (A) It allows additional FAR upon payment of a premium fee.
Premium FSI is a mechanism that allows developers to exceed the standard permissible Floor Area Ratio by paying an additional fee to the local authority. This system provides flexibility for higher density development in specific areas while generating revenue for the urban local body. The funds collected are typically utilized for upgrading urban infrastructure to support the increased built-up area and population.

52. (B) 3 years
Once development permission is granted under the 1973 Act, the applicant is expected to commence and complete the work within

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and open spaces, are entirely incompatible with heavy manufacturing units, which produce noise and pollution and belong strictly in designated industrial zones far from recreational areas.

103. (B) Land readjustment / Town Planning Scheme with minor realignments.
Revitalizing congested inner-city areas requires a sensitive approach that minimizes displacement while improving infrastructure. Land readjustment through a town planning scheme is the most appropriate technique. It allows the authority to reorganize irregular plot boundaries and create space for wider roads and public amenities by deducting a small portion from each owner. This results in a better-organized neighborhood where all owners benefit from improved access and increased property values.

104. (C) 900 sq.m
The maximum permissible built-up area is found by multiplying the total plot area by the Floor Area Ratio. A plot measuring twenty by thirty meters has a total area of six hundred square meters. With a Floor Area Ratio of one point five, the total allowed built-up area across all floors is nine hundred square meters. The ground coverage limit only restricts how much of that area can be built on the ground floor.

105. (D) The Central Government (MoEFCC)
The Forest Conservation Act of 1980 is a stringent central law designed to protect India's forest cover. Any project that requires the diversion of forest land for non-forest purposes, regardless of whether it is a state or local project, must receive prior approval from the central government. This process is managed by the Ministry of Environment, Forest and Climate Change to ensure that ecological impacts are thoroughly evaluated at the highest level.

106. (A) MP Municipal Corporation Act, 1956
The primary legal framework for the governance of larger cities in Madhya Pradesh is the Municipal Corporation Act of 1956. This legislation details the constitution of the corporation, the powers of the mayor and commissioner, and the various duties related to public health, safety, and infrastructure. It provides the statutory basis for how municipal corporations manage their finances and deliver essential services to urban residents across the state.

107. (B) A Planning Area notified under the MPTGNP Act.
Development authorities in Madhya Pradesh, such as the Indore Development Authority, do not operate within simple municipal ward boundaries. Instead, their functional jurisdiction is defined by the "planning area" officially notified by the state government under the 1973 Act. This area is typically much larger than the municipal limits, encompassing the city's future growth corridors and surrounding rural areas to ensure planned expansion and infrastructure integration.

108. (C) Article 243ZD
The 74th Constitutional Amendment Act introduced several new articles to institutionalize urban local governance. Article 243ZD specifically mandates the creation of a District Planning Committee in every state at the district level. The purpose of this committee is to consolidate the plans prepared by the Panchayats and the Municipalities within the district and to prepare a draft development plan for the entire district, ensuring rural-urban integrated planning.

109. (A) Projects with completion certificates received prior to the Act.
RERA registration is designed to oversee ongoing and future real estate developments. An important exception to the mandatory registration requirement is for projects that had already received an official completion certificate from the competent authority before the Act came into force. These projects are considered finished and are not subject to the same promoter obligations and reporting requirements as new or ongoing developments under the regulatory framework.

110. (C) Statement I is true but Statement II is false
The EIA Notification categorizes projects based on their potential environmental impact. Category A projects require central clearance, while Category B projects are handled at the state level. However, townships and area development projects are not automatically in Category A. Their classification depends on the total built-up area; only projects exceeding certain massive

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61. (A) 1, 2, 3, 4
Determining compensation under the 2013 Act follows a systematic multi-step calculation. It starts by finding the base market value of the land. A multiplier is then applied based on the land's distance from urban centers. Next, the value of all attached assets, such as trees or buildings, is added. Finally, a one hundred percent solatium is applied to the total to arrive at the final award amount.

62. (C) Conducting the Social Impact Assessment (SIA)
The urgency clause in the 2013 Act allows the government to fast-track land acquisition for critical projects like national security or disaster relief. When this clause is invoked, the requirement to conduct a Social Impact Assessment can be waived to save time. However, other essential steps, such as the issuance of notifications and the eventual payment of fair compensation to landowners, remain mandatory.

63. (C) 2.0
To compensate rural landowners fairly, the 2013 Act uses a multiplier system for land located outside urban boundaries. The state government determines this factor based on the distance from urban local bodies. In Madhya Pradesh, the maximum factor applied is two point zero. This means the determined market value of rural land can be doubled before adding the value of assets and the mandatory solatium.

64. (C) A is true but R is false.
Land pooling is increasingly preferred over compulsory acquisition because it is a more participatory and inclusive process. Unlike the traditional "eminent domain" approach which involves forced eviction and cash compensation, land pooling involves the voluntary contribution of land by owners. They receive a smaller but fully developed plot in the same area, benefiting directly from the infrastructure improvements and the subsequent rise in land value.

65. (B) Entitlements cover titleholders and long-term dependent livelihood losers.
The 2013 Act significantly expanded the scope of resettlement and rehabilitation. Entitlements are not restricted only to the legal titleholders of the land. They also extend to those who do not own the land but have been dependent on it for their primary livelihood for several years, such as agricultural laborers or tenants. This ensures that the social and economic impact on all affected persons is addressed.

66. (D) Future speculative land value post-development
Compensation under the 2013 Act is based on the current market value of the land and the actual value of existing assets like structures and plantations. A one hundred percent solatium is also added to this total. However, the law does not account for future speculative land values that might arise after the project is completed. The focus remains on providing fair value based on current and historical data.

67. (A) P-2, Q-1, R-4, S-3
The 2013 Act contains several schedules that detail different aspects of the acquisition process. The First Schedule outlines the components of compensation for landowners. The Second Schedule specifies the various rehabilitation and resettlement entitlements. The Third Schedule lists the infrastructural amenities that must be provided in resettlement areas. The Fourth Schedule identifies other central acts to which the provisions of the 2013 Act will apply.

68. (A) Both Statement I and Statement II are true
To protect national food security, the 2013 Act generally prohibits the acquisition of multi-cropped irrigated land. Such lands can only be acquired under exceptional circumstances and as a last resort. If such land is taken, the law requires the state to develop an equivalent area of culturable wasteland for agricultural use or provide a designated amount to the food security fund to mitigate the loss.

69. (A) The tenant is eligible for shifting allowance or housing entitlements.
The 2013 Act recognizes the rights of non-owners who are displaced by land acquisition. A long-term tenant residing in a house on the acquired land is considered an affected family. As such, they are eligible for specific rehabilitation benefits, which may include a one-time shifting allowance or alternative housing entitlements. This prevents tenants from being rendered homeless without any support during the displacement process.

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86. (D) No building is fully exempt; minor exceptions apply to watchman cabins.
Building regulations are designed to ensure safety and openness for all structures. Therefore, no building is entirely exempt from setback and open space requirements. While standard rules apply to high-rises, commercial malls, and government offices alike, minor exceptions are sometimes made for very small, non-habitable structures like watchman cabins or pump houses, provided they do not interfere with main access or fire safety requirements.

87. (B) P-3, Q-1, R-4, S-2
Different planning tools serve specific urban management goals. Land pooling involves the reconstitution of plots for infrastructure. Eminent domain is the state's power for compulsory acquisition. Transferable Development Rights allow for the severance of development potential from land ownership to protect certain areas. Zoning is the primary method of segregating land uses to ensure that incompatible activities, like heavy industry and residential housing, do not conflict.

88. (A) Both Statement I and Statement II are true
Fire safety regulations distinguish between buildings based on their height and risk profile. High-rise buildings, defined as those above fifteen meters, must strictly adhere to comprehensive fire safety norms, including fire tender paths and external staircases. Conversely, small standalone residential bungalows below this height are generally considered lower risk and typically do not require a formal fire clearance (NOC) as part of their standard building permission.

89. (D) Clearance under the Forest Conservation Act 1980 for diversion.
If a land parcel is officially recorded as forest land, it falls under the protective ambit of the Forest Conservation Act of 1980. Even if the land is located within a planning area, development cannot proceed without obtaining a specific clearance for the diversion of forest land for non-forest use. this approval must be granted by the central government through the Ministry of Environment, Forest and Climate Change.

90. (A) 1, 2, and 4
Town and Country Development Authorities are the primary agencies for implementing the spatial vision set out in the master plan. They are responsible for preparing and executing town development schemes and have the power to acquire land for these projects. They also manage and dispose of the developed land. However, they cannot override the finalized development plan prepared by the director, as they must operate within its framework.

91. (B) Granting TDR and FAR to owners who build public amenities on their plots.
Accommodation reservation is an innovative planning tool used to acquire land for public amenities without large cash outflows. Under this principle, a property owner is allowed to develop the public reservation, such as a school or dispensary, on their land at their own cost. In return, the owner is granted additional Floor Area Ratio or Transferable Development Rights that they can use on the remaining part of the plot.

92. (C) 5 years
To prevent the state from holding onto acquired land indefinitely without utilizing it, the 2013 Act includes a specific safeguard. If the acquired land remains unutilized for the purpose it was taken for a period of five years from the date of the award, it must be returned to the original owners or the state land bank, as per the rules framed by the appropriate government.

93. (A) Urban Development and Housing Department (UDHD)
The Directorate of Town and Country Planning is the technical wing responsible for spatial planning across Madhya Pradesh. Administratively, it functions under the parent body of the Urban Development and Housing Department. This department oversees the formulation of urban policies, the functioning of municipal bodies, and the implementation of various housing and infrastructure schemes, ensuring a coordinated approach to the state's urban development agenda.

94. (D) A is false but R is true.
While the 74th Amendment aimed to make urban local bodies responsible for planning, the

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78. (C) Statement I is true but Statement II is false
Before the 2013 Act, land acquisition was frequently delayed by litigation over low compensation and the misuse of the urgency clause. While the 2013 Act introduced more transparency and better compensation to reduce these disputes, it does not completely eliminate the possibility of legal challenges. Affected parties still retain their fundamental right to approach the High Courts if they believe their statutory rights or constitutional protections have been violated.

79. (D) Obtaining prior consent from concerned Gram Sabhas under PESA.
When land acquisition affects tribal communities in scheduled areas, additional legal protections apply. Under the PESA Act and the 2013 land acquisition legislation, the government must obtain the prior consent of the concerned Gram Sabhas before proceeding. This ensures that the indigenous communities have a say in the development process and that their social, cultural, and economic interests are considered and protected before any displacement occurs.

80. (C) 1, 3, and 4
The Chief Minister Urban Infrastructure Development Scheme is a state initiative aimed at strengthening the physical infrastructure of urban areas in Madhya Pradesh. It provides funding for essential projects like water supply, sewerage, and road networks, helping to bridge the financial gap in local bodies. The scheme also encourages municipalities to leverage institutional finance to undertake larger development projects, thereby improving the overall quality of urban life.

81. (A) 1, 2, 3, 4
The Automated Building Plan Approval System has streamlined the permission process. It begins with the online submission of architectural drawings by the applicant. The system then performs an automated scrutiny of these drawings against the prevailing building bye-laws and norms. Once the plans are found compliant, the applicant pays the required fees. Finally, a digitally signed building permission certificate is issued, completing the entire process electronically.

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82. (D) Area exceeds 500 square meters or apartments exceed eight.
RERA registration is mandatory for most commercial and residential real estate projects to ensure buyer protection. A project must be registered if the area of land proposed to be developed exceeds five hundred square meters or if the number of apartments proposed to be developed exceeds eight. This threshold ensures that even medium-sized developments are brought under the regulatory oversight of the authority to maintain transparency.

83. (A) The State Government
In Madhya Pradesh, the process of drafting a master plan involves technical work by the planning department and public consultations. However, the final legal authority to sanction and publish the finalized development plan rests with the state government. This ensures that the city's growth strategy is aligned with broader state policies and that all statutory procedures for hearing public objections have been correctly followed.

84. (A) Both A and R are true and R is the correct explanation of A.
The 2013 Act replaced a faster but less equitable system with a more rigorous and participatory process. Mandatory steps like Social Impact Assessments, detailed public hearings, and obtaining the consent of a majority of landowners have naturally increased the time required to finalize an acquisition. These procedures are designed to ensure that the social costs of development are fully understood and addressed before land is taken.

85. (A) The Act applies to areas notified as a "Planning Area" by the state.
The Madhya Pradesh Town and Country Planning Act does not apply automatically to every rural village. Its jurisdiction is triggered when the state government officially notifies a specific region as a "planning area." This notification can include both urban centers and their surrounding rural hinterlands. Once notified, any development within those rural areas must comply with the provisions of the Act and the resulting development plans.

70. (D) 1, 2, and 3
Modern urban development utilizes various legal mechanisms beyond traditional compulsory acquisition. Town planning schemes involve land pooling and reconstitution. Transferable Development Rights allow for the compensation of owners through development potential rather than cash. Direct mutual negotiation and purchase allow the government to buy land at agreed market rates. Forced expropriation without any compensation is not a legally valid or recognized mechanism in India.

71. (B) By averaging the top 50% of the highest value deeds in three years.
To ensure that the market value reflects realistic prices, the 2013 Act prescribes specific methods for its determination. One common method is to take the average of the sale prices for similar lands in the vicinity. This is done by looking at the top fifty percent of the highest registered sale deeds over the preceding three years. This prevents low-value transactions from pulling down the compensation amount.

72. (C) Madhya Pradesh Urban Development Company (MPUDC)
The Madhya Pradesh Urban Development Company serves as the primary technical and financial intermediary for major urban missions in the state. It acts as the nodal agency for implementing projects under the Smart Cities Mission and the AMRUT scheme. The company assists urban local bodies in project preparation, procurement, and management, ensuring that central and state funds are utilized efficiently for urban infrastructure.

73. (D) To assemble land and construct housing for various income groups.
The Madhya Pradesh Housing and Infrastructure Development Board is a state-level body focused on addressing housing needs. Its primary role involves the assembly of land and the construction of residential units for different segments of society, including high, middle, and low-income groups. By developing self-contained housing colonies with necessary infrastructure, the board helps in organized urban expansion and provides affordable living options for citizens.

74. (C) A is true but R is false.
Special Purpose Vehicles created for the Smart Cities Mission are designed to have administrative and financial autonomy to speed up project implementation. However, they are not purely private companies. They are government-owned entities with equity shared between the state and the local body. They operate within the framework of municipal laws and have board representation from government officials to ensure public accountability and alignment.

75. (B) The State may form a Regional Planning Board for designated areas.
Regional planning under the 1973 Act allows for the management of areas that extend beyond a single city's boundaries. The state government has the authority to declare a region and constitute a Regional Planning Board. These boards are responsible for preparing comprehensive regional plans that address large-scale issues like transportation networks, resource management, and regional-level infrastructure, ensuring balanced development across the broader geographical area.

76. (B) Projects related to national security and defense of India
While a Social Impact Assessment is a standard requirement for most land acquisitions under the 2013 Act, certain critical projects are exempt. Specifically, projects that are vital for national security and the defense of India are excluded from this requirement. This exemption is intended to prevent delays in projects that are essential for the country's protection, though compensation and resettlement provisions still apply to the affected families.

77. (A) P-2, Q-3, R-4, S-1
Urban management involves multiple agencies with distinct roles. The Directorate of Town and Country Planning focuses on macro-level master plans. Development authorities like those in Indore or Bhopal execute specific town development schemes and land assembly. RERA regulates the real estate sector and protects homebuyers. Meanwhile, Urban Local Bodies are responsible for day-to-day civic amenities like water supply, street lighting, and solid waste management.

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transition has not been full or seamless across India. In many states, including Madhya Pradesh, parastatal agencies like development authorities continue to hold significant powers over land assembly and master planning. This dual system often exists alongside municipal bodies, as the amendment provided a framework rather than an immediate and total transfer of all planning functions.

95. (D) Proceedings lapse if an award was made 5+ years ago without possession.
The retrospective clause in Section Twenty-four of the 2013 Act deals with land acquisition proceedings initiated under the old 1894 Act. It stipulates that these proceedings will lapse if a compensation award was made five years or more before the commencement of the new Act, but either physical possession of the land has not been taken or the compensation has not been paid to the affected landowners.

96. (C) The architectural style of the building's facade
Parking norms are calculated to ensure that buildings can accommodate the vehicles they attract without causing street congestion. Planners use criteria such as the total built-up area of the building, its specific land use classification, and the size of the city. The architectural style of the facade is an aesthetic consideration and does not impact the number of parking spaces required, which is strictly a function of building activity and intensity.

97. (B) P-4, Q-3, R-1, S-2
Statutory planning documents operate at different scales and timeframes. A perspective plan provides a long-term vision over twenty-five years. The master plan or development plan offers a comprehensive city-level framework for ten to twenty years. Zonal plans provide intermediate-level detail for specific city sectors. Finally, town planning schemes are highly detailed implementation tools used at the neighborhood level for land pooling and infrastructure development within shorter timeframes.

98. (C) Statement I is true but Statement II is false
The State Environment Impact Assessment Authority is responsible for granting environmental clearances to Category B projects at the state level. This includes building and construction projects that meet certain size thresholds. However, Statement Two is false because as the project size increases, the requirement for environmental clearance becomes even more stringent. Very large projects are never exempt and may even be elevated to Category A for central oversight.

99. (A) Large layouts require wider roads for circulation and fire tender access.
Internal road widths in a layout are governed by the number of plots and the expected traffic volume. A six-meter road is generally insufficient for a large layout of one hundred plots. Planners require wider roads to ensure smooth circulation and, most importantly, to allow adequate space for fire tenders and emergency vehicles to navigate and operate effectively, ensuring the safety of the residents in the large residential scheme.

100. (C) 1, 2, 3, and 4
The total award amount under the 2013 land acquisition legislation is a comprehensive sum of several components. It includes the determined market value of the land, which is adjusted by a distance-based multiplier. To this, the value of all assets attached to the land, such as buildings, fences, and trees, is added. Finally, a one hundred percent solatium is applied to the grand total to arrive at the final compensation package.

101. (C) LARR Act - 2005
Understanding the enactment years of key legislation is essential for urban planning history. The Urban Land Ceiling Act was passed in 1976, and the Environment Protection Act followed in 1986. The Real Estate Regulatory Act is a more recent enactment from 2016. However, the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act was enacted in 2013, making the year 2005 an incorrect match.

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102. (D) Recreational Zone - Heavy manufacturing unit
Zoning regulations are designed to keep incompatible land uses separate to maintain urban quality of life. Residential zones can accommodate primary health centers, and commercial zones often include cinemas. Public zones are suitable for university campuses. However, recreational zones, meant for parks

a reasonable timeframe. Ordinarily, this permission remains valid for a period of three years. If the development is not completed within this duration, the owner may need to apply for an extension or a fresh permission, depending on the specific rules of the authority.

53. (A) Changes to building facades and architectural character.
In designated heritage zones, regulations focus on preserving the historical and cultural significance of the area. The most significant restrictions usually apply to any modifications that could alter the external building facades or the traditional architectural character of the streetscape. These controls ensure that new developments or renovations remain sympathetic to the historical context and do not diminish the area's heritage value.

54. (A) Both A and R are true and R is the correct explanation of A.
Eco-sensitive zones, particularly lake catchments, require stringent development controls to prevent environmental degradation. Excessive paving and high-density construction in these areas reduce the natural absorption of rainwater, leading to decreased groundwater recharge and increased runoff. This runoff often carries pollutants into the water bodies and elevates the risk of urban flooding, necessitating strict limits on ground coverage and built-up area.

55. (B) TDR is a mechanism granting development potential as a certificate for use elsewhere.
Transferable Development Rights allow for the separation of land ownership from the right to develop that land. When a property owner is restricted from developing their land due to a public reservation or heritage status, the government can issue a TDR certificate. This certificate represents the lost development potential, which the owner can then sell or utilize on another plot in a designated receiving area.

56. (C) A psychological assessment of the building owner
The application process for building permission requires several technical and legal documents to ensure compliance with urban norms. These include the title deed to prove ownership, detailed site plans and architectural drawings prepared by registered professionals, and structural safety certificates. A psychological assessment of the property owner is not a requirement, as the regulatory focus is entirely on the technical and legal aspects of the construction.

57. (D) P-3, Q-2, R-4, S-1
Understanding land records is crucial for planning. A Khasra is a registry detailing plot numbers and ownership, while the B-1 record confirms overall ownership rights. The Patwari is the village-level official responsible for maintaining these records. Nazul land refers specifically to government-owned land in urban areas that is typically used for non-agricultural purposes such as public buildings, parks, or residential leases.

58. (C) Statement I is true but Statement II is false
Amalgamation allows the joining of two or more adjacent plots to create a larger, unified land parcel for more efficient development. This is often permitted subject to the zoning regulations of the combined area. However, the resulting Floor Area Ratio is not arbitrarily limited to a percentage of the original plots; instead, it is determined based on the total area and road width of the new parcel.

59. (B) A 6m-7.5m open setback driveway for fire engine movement.
For high-rise buildings, fire safety is a critical design consideration. Regulations mandate a minimum clear open space or setback around the building's perimeter, usually between six and seven and a half meters wide. This driveway must remain unobstructed to allow for the easy movement and operation of fire tenders and emergency vehicles, ensuring that all sides of the tall structure are accessible during a fire.

60. (B) 1, 2, and 3
The Unified Building Bye-laws in Madhya Pradesh aim to standardize construction regulations across the state. They incorporate modern environmental requirements such as mandatory rainwater harvesting for larger plots and solar water heating systems for specific building categories. While they provide a clear framework, they do not abolish Floor Area Ratio restrictions, as these remain essential tools for managing urban density and infrastructure load.

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thresholds are handled centrally, while smaller township developments are typically processed by the state-level assessment authority.

111. (D) Fire Services Act/NBC and RERA 2016
Selling a refuge area as a habitable flat is a serious violation of both safety and consumer protection laws. The Fire Services Act and the National Building Code strictly mandate refuge areas for emergency evacuation in high-rises. Additionally, RERA prohibits developers from making unauthorized changes to the sanctioned building plans and provides for strict penalties for such fraudulent practices, protecting homebuyers from being sold illegal and unsafe spaces.

112. (C) Rs. 24 Lakhs
Calculating compensation involves determining the total market value of the land and assets first. With a base value of ten lakhs and assets worth two lakhs, the sub-total is twelve lakhs. Since the multiplier is one, the value remains twelve lakhs. Adding the mandatory one hundred percent solatium means adding another twelve lakhs to the sub-total. This results in a final compensation award of twenty-four lakhs for the affected owner.

113. (D) Regulation of Inter-state Migrant Construction Laborers
The 1973 Act is a spatial planning legislation focused on land use and physical development. Its core chapters deal with regional plans, the preparation of master plans, and the establishment of development authorities to execute town development schemes. The regulation of construction laborers is a social and labor-related issue governed by separate labor laws and does not fall within the functional domain or statutory chapters of the state's primary planning act.

114. (D) EPCO - State-level environmental planning
The Environmental Planning and Coordination Organisation is a premier state-level agency in Madhya Pradesh. It is specifically tasked with environmental planning, research, and providing technical advice to the government on ecological issues. Unlike the other agencies mentioned, which deal with urban infrastructure or real estate regulation, EPCO's primary mandate is the integration of environmental considerations into the overall development planning process of the state.

115. (A) Apex technical advisory body to the Central Ministry on planning.
The Town and Country Planning Organisation serves as the technical arm of the Ministry of Housing and Urban Affairs at the central level. Its primary role is to advise the central government on matters related to urban and regional planning, formulate national-level guidelines, and assist state governments in improving their planning systems. It plays a key role in drafting model laws and monitoring central urban development missions.

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116. (B) 200 meters
The Ancient Monuments Act establishes two distinct buffer zones around protected sites. Beyond the initial one hundred-meter prohibited area where no construction is allowed, there is a further regulated area extending an additional two hundred meters. Within this zone, any construction or mining activity requires a specific permit from the competent authority to ensure that the development is compatible with the heritage site's preservation.

117. (A) The Real Estate Appellate Tribunal (REAT)
RERA provides a multi-tiered grievance redressal mechanism for the real estate sector. If a homebuyer or a developer is not satisfied with the orders or decisions made by the Real Estate Regulatory Authority, they have the legal right to file an appeal. This appeal is heard by a specialized judicial body known as the Real Estate Appellate Tribunal, which is established to ensure a fair and expert review of the cases.

118. (D) Consent is not required for purely government infrastructure.
The 2013 Act balances the need for public infrastructure with landowner rights. While the law mandates high consent thresholds for land acquisition by private companies or public-private partnerships, these consent requirements do not apply when the government is acquiring land for its own projects. For purely public infrastructure projects like state highways or government buildings, the state can acquire land without seeking formal consent from the owners.

temporarily lease their land to the state for resource extraction and mining before its eventual return.

(D) The administrative conversion of agricultural land into an industrial zone without altering ownership boundaries or providing infrastructure.

6. Consider the following statements regarding the Town Planning Scheme (TPS) process:

1. The declaration of intention must be published in the official gazette.
2. The draft scheme is prepared after resolving all title disputes through civil courts.
3. A designated Town Planning Officer (TPO) hears objections regarding plot reconstitution and betterment charges.
4. The final scheme becomes a statutory document with the same legal force as the Act itself.

Which of the statements given above are correct?

(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2, 3 and 4

7. A local authority is formulating a TPS covering 100 hectares. The planning norms require 15% land for roads, 10% for parks, and 5% for social amenities. If a landowner submits a 2-hectare plot for pooling, what will be the approximate size of the final reconstituted plot allocated back to the owner, assuming proportionate deduction?

(A) 1.70 hectares
(B) 1.00 hectares
(C) 0.60 hectares
(D) 1.40 hectares

8. Identify the correct pair concerning land assembly techniques and their respective regions.

(A) Land Readjustment – Widely utilized in South Korea and Japan
(B) Town Planning Scheme – Exclusively utilized in North-Eastern Indian states
(C) Land Pooling Policy 2018 – Implemented by Chennai Metropolitan Development Authority
(D) Betterment Levy Exemption – Standard practice in the Maharashtra MRTP Act

9. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.

Assertion (A): Under a Town Planning Scheme, a local authority levies betterment charges on the landowners receiving reconstituted plots.

Reason (R): The final reconstituted plots experience an increment in land value due to the provision of physical and social infrastructure by the authority.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

10. What is the most appropriate distinction between voluntary land pooling and compulsory land readjustment?

(A) Voluntary pooling requires the consent of every single citizen in the city, whereas compulsory readjustment only requires state consent.
(B) Pooling relies on voluntary surrender for incentives, while readjustment is enforced through statutory law regardless of individual consent.
(C) Voluntary pooling does not provide any financial compensation, whereas compulsory readjustment guarantees upfront cash compensation for the entire land.
(D) Voluntary pooling is executed strictly by private developers, whereas compulsory readjustment is executed only by international NGOs.

11. Match the stages of a Town Planning Scheme in List I with the primary action involved in List II.

List I: (Stage of TPS)

P. Draft Scheme Publication
Q. Arbitrator / TPO Appointment
R. Preliminary Scheme
S. Final Scheme

List II: (Primary Action)

1. Freezing of land values for the calculation of betterment contributions.
2. Dealing specifically with physical reconstitution, alignment, and handover of final plots.

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CHAPTER 22

Land Development and Management Tools

1. Under the provisions of the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, which authority is primarily responsible for the declaration of intention to make a Town Planning Scheme (TPS)?
(A) The respective City or Town Development Authority
(B) The State Government directly through a gazette notification
(C) The Town and Country Planning Directorate
(D) The District Collector acting as the designated land officer

2. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.
Assertion (A): The Town Planning Scheme (TPS) under the Gujarat model is considered a highly successful land assembly tool compared to bulk land acquisition.
Reason (R): TPS ensures that original landowners are completely displaced from their neighborhood but compensated at market rates.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

3. Which of the following statements regarding the reconstitution of plots under a Town Planning Scheme is INCORRECT?
(A) Reconstitution strictly forbids the transfer of ownership rights between private individuals and the local authority.
(B) Reconstitution involves scientifically altering the boundaries of original plots to create regular-shaped final plots suitable for urban use.
(C) Landowners usually retain a substantial portion of their original land holdings, often in the exact same geographic location or vicinity.
(D) All final plots are systematically provided with direct access to the newly planned and integrated hierarchical road network.

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4. Match the Land Assembly Models in List I with their characteristic features in List II.
List I: (Land Assembly Model)
P. Gujarat TPS Model
Q. Amaravati Model
R. Delhi Land Pooling 2018
S. Kukaku Seiri (Japan)
List II: (Characteristic Feature)
1. Voluntary pooling with a return of developed residential and commercial plots.
2. Consortium-based approach acting as developer entities.
3. Statutory deduction of land for amenities and infrastructure with betterment charges.
4. Internationally recognized model emphasizing agricultural to urban land readjustment.
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-2, R-1, S-4
(D) P-4, Q-1, R-2, S-3

5. How is the concept of "Land Pooling" definitively described in modern urban planning frameworks?
(A) The outright purchase of fragmented land parcels by the government for constructing public housing complexes and social infrastructure.
(B) Consolidating and planning contiguous land parcels with infrastructure before reconstituting them to owners minus a public use portion.
(C) A mechanism where landowners

FSI and loaded TDR.

Which of the statements given above are correct?

(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2, 3 and 4

31. A city establishes a TDR mechanism to preserve ecological zones. However, after five years, the authorities find that zero TDR certificates have been utilized, causing the market value of certificates to crash. What is the most likely conceptual failure in this system?

(A) The ecological zones were too rigidly defined by the local planning authority.
(B) Receiving zones have high base FAR, leaving no demand for additional TDR.
(C) The TDR certificates were printed on digital formats instead of physical papers.
(D) The city implemented strict architectural controls in the TDR generation zone.

32. Identify the correct pair regarding TDR concepts.

(A) Floating TDR – can only be applied to the adjacent neighboring plot within a sector.
(B) Loading norms – defining the minimum structural weight a building must support for safety.
(C) Base FSI – representing the maximum potential FSI achievable only after purchasing TDR.
(D) Location-specific TDR – utilization is restricted to designated receiving zones.

33. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.

Assertion (A): TDR is a highly effective tool for heritage conservation in urban cores.

Reason (R): TDR compensates the owners of heritage properties for the loss of development rights they suffer due to strict conservation regulations preventing demolition or expansion.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

34. Under the Slum Rehabilitation Authority (SRA) model in Mumbai, what is the primary incentive for a private developer to undertake the in-situ redevelopment of a slum?

(A) Grant of ownership of the new apartments constructed for the eligible slum dwellers.
(B) Grant of tax-free status for all future redevelopment projects undertaken in the country.
(C) Grant of incentive FSI/TDR to build premium residential or commercial space for free sale.
(D) Direct cash subsidies from the central government under the flagship Smart Cities Mission.

35. Match the factors influencing the TDR market in List I with their corresponding effects in List II.

List I: (Market Factor)

P. High Base FSI in Receiving Zones
Q. Strict restrictions on maximum building height
R. Large-scale mandatory road widenings
S. Linking TDR to property market rates

List II: (Market Effect)

1. Lowers the demand and price for purchasing TDR certificates.
2. Ensures equitable value transfer between prime and suburban areas.
3. Leads to an oversupply of TDR certificates in the market.
4. Acts as a physical barrier to the full consumption of loaded TDR.

(A) P-1, Q-4, R-3, S-2
(B) P-4, Q-1, R-2, S-3
(C) P-3, Q-2, R-1, S-4
(D) P-1, Q-3, R-4, S-2

36. Arrange the following milestones in the evolution of TDR usage in Mumbai in chronological order:

1. Introduction of TDR linked to Ready Reckoner Rates.
2. Initial introduction of TDR primarily for acquiring lands reserved for public amenities.
3. Extension of TDR benefits to Slum Rehabilitation projects (Slum TDR).
4. Introduction of Heritage TDR.

(A) 2, 3, 4, 1
(B) 2, 4, 3, 1

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3. Determination of financial aspects, cost recovery, and final betterment charges.
4. Hearing of individual grievances and micro-level boundary adjustments.

(A) P-1, Q-4, R-2, S-3
(B) P-2, Q-3, R-1, S-4
(C) P-1, Q-2, R-4, S-3
(D) P-3, Q-1, R-2, S-4

12. Arrange the following steps of implementing a typical Town Planning Scheme (TPS) in the correct chronological order:

1. Appointment of the Town Planning Officer (TPO) to hear objections.
2. Declaration of Intention to make a scheme.
3. Sanction of the Final Scheme by the State Government.
4. Preparation and publication of the Draft Scheme.

(A) 2, 4, 1, 3
(B) 2, 1, 4, 3
(C) 4, 2, 1, 3
(D) 1, 2, 4, 3

13. Identify the INCORRECT pair regarding the Andhra Pradesh Land Pooling Scheme for Amaravati.

(A) Land return mechanism – Both residential and commercial reconstituted plots are allocated.
(B) Consent basis – Formulated largely as a voluntary participatory model.
(C) Infrastructure development – Handled by the Capital Region Development Authority (CRDA).
(D) Annuity payment – Landless laborers receive zero financial assistance.

14. Consider the following statements regarding the Delhi Land Pooling Policy 2018:

1. The policy mandates the creation of Developer Entities (DE) by consolidating land parcels.
2. The minimum land area required to form a pooling sector is strictly 1 hectare.
3. The policy operates on a two-part land distribution ratio, typically returning 60% of land to the developer entity.
4. The Delhi Development Authority (DDA) acts solely as a facilitator and planner rather than acquiring the land.

Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2, 3 and 4

15. Consider the following two statements regarding urban land management and identify the correct assessment:

Statement I: The conversion of village peripheral land for urbanization requires careful management to prevent haphazard sprawl and unauthorized colonies.

Statement II: Land pooling mechanisms inherently fail at integrating village abadi areas into formal urban master plans.

(A) Statement I is correct and Statement II is correct.
(B) Statement I is incorrect and Statement II is correct.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is incorrect.

16. Which of the following is NOT typically recognized as a primary challenge in implementing Town Planning Schemes (TPS) in Madhya Pradesh cities?

(A) Insufficient capacity and shortage of trained Town Planning Officers (TPOs).
(B) Complex and highly fragmented land ownership records.
(C) Resistance from landowners due to a lack of awareness and trust in the plot reconstitution process.
(D) Absolute prohibition of TPS provisions under the MP Nagar Tatha Gram Nivesh Adhiniyam.

17. In the calculation of cost recovery for a Town Planning Scheme, what does the "increment in value" primarily signify?

(A) Difference between the original plot value without infrastructure and the estimated value of the final plot with infrastructure.
(B) The projected annual inflation rate applied specifically to the administrative and operational costs of the local planning authority.
(C) The statutory tax imposed on the

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44. An owner of a Grade-I heritage building in Gwalior is legally prohibited from adding a new commercial floor above the existing structure, despite the plot having unconsumed FAR. Which of the following planning tools can the local authority use to compensate the owner without spending public funds?
(A) Imposing an external development charge on the property.
(B) Levying a betterment charge on the heritage structure.
(C) Issuing a Heritage TDR certificate equal to the unconsumed FAR.
(D) Initiating a compulsory land readjustment scheme.

45. In the context of TDR loading norms, how is "Base FSI" defined?
(A) Additional FSI acquired by purchasing TDR certificates directly from the open market.
(B) Minimum FSI a developer must build to qualify for a municipal completion certificate.
(C) FSI reserved exclusively for the construction of underground basement parking areas.
(D) Permissible built-up area attached to a plot without paying premium or loading TDR.

46. A municipality proposes a major road widening project that will slice through 50 private properties. To execute this swiftly without depleting the municipal budget, the city offers the affected landowners TDR. What must the city ensure for this strategy to be successful?
(A) Decrease the base FAR in all other parts of the city to zero to create artificial demand.
(B) Mandate that the generated TDR can only be used to build affordable housing for laborers.
(C) Ensure there is a viable, high-demand receiving zone for developers to buy the TDR.
(D) Simultaneously increase property taxes on the affected landowners to fund the road work.

47. In Madhya Pradesh, under the current legal framework for urban development, the utilization of TDR is closely regulated and often tied to which specific factor of the receiving plot to manage density?
(A) The age of the building on the receiving plot.
(B) The minimum abutting road width of the receiving plot.
(C) The caste demographic of the neighborhood.
(D) The distance of the receiving plot from the state capital, Bhopal.

48. The rationale for introducing TDR in urban planning is fundamentally based on which principle?
(A) Total land nationalization and the elimination of private property rights.
(B) Aggressive taxation of vacant urban land to prevent speculative hoarding.
(C) Cross-subsidization of rural infrastructure through urban development taxes.
(D) Unbundling property rights, separating land ownership from development rights.

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49. In Madhya Pradesh, External Development Charges (EDC) are typically levied by development authorities on private colonizers. What is the primary purpose of this charge?
(A) Financing city-level off-site infrastructure that supports the new colony.
(B) Funding the internal street lighting and parks within the private colony.
(C) Providing a direct cash subsidy to low-income residents of the new colony.
(D) Paying the salaries of the Town and Country Planning Directorate staff members.

50. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.
Assertion (A): Land Value Capture (LVC) mechanisms are justified on the grounds of equity and public finance.
Reason (R): Public investments in infrastructure (like a metro rail) lead to a significant increase in private land values, and LVC seeks to recover a portion of this unearned increment to fund the infrastructure.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

24. Which country is widely recognized as the pioneer of the "Kukaku Seiri" system, a highly successful model of land readjustment that influenced global planning practices?
(A) Japan
(B) Germany
(C) South Korea
(D) Australia

25. In the context of Madhya Pradesh, which specific instrument is heavily relied upon to acquire land for road widening without direct financial compensation, often referred to locally and integrated into the MP Bhumivikas Rules?
(A) Tax Increment Financing (TIF)
(B) Transferable Development Rights (TDR) / FAR incentives
(C) Business Improvement Districts (BID)
(D) Betterment Levy

26. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.
Assertion (A): Transferable Development Rights (TDR) effectively separate the development potential of a land parcel from the land itself.
Reason (R): TDR allows the government to physically move the soil and geological features from a heritage zone to a newly developing zone.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

27. Which of the following statements regarding the generation of TDR is INCORRECT?
(A) TDR cannot be generated for preserving heritage buildings, as they are completely exempt from planning laws.
(B) TDR can be generated when a landowner surrenders land for public road widening.
(C) Slum rehabilitation projects frequently utilize TDR to incentivize developers to build free housing for slum dwellers.
(D) The amount of TDR generated is typically quantified in terms of built-up area or Floor Space Index (FSI).

28. Match the TDR terminologies in List I with their contextual applications in List II.
List I: (TDR Terminology)
P. Receiving Zone
Q. Generation Zone
R. Slum TDR
S. Heritage TDR
List II: (Contextual Application)
1. Areas designated with surplus infrastructure capacity where additional FSI can be consumed.
2. Granted to owners restricted from modifying culturally significant structures.
3. Areas earmarked for public amenities or environmental conservation where development is restricted.
4. Awarded to developers for constructing free rehabilitation tenements for informal settlers.
(A) P-1, Q-3, R-4, S-2
(B) P-3, Q-1, R-2, S-4
(C) P-1, Q-4, R-3, S-2
(D) P-2, Q-3, R-4, S-1

29. What is a "TDR Certificate" in urban planning?
(A) A document certifying that a building is structurally safe enough to receive additional floors of construction.
(B) A certificate issued by the revenue department proving the ownership and classification of agricultural land.
(C) A mandatory clearance from the environmental ministry before initiating slum demolition and site clearance.
(D) A tradable legal document specifying the quantum of built-up area a landowner is entitled to use or sell.

30. Consider the following statements regarding TDR under the Development Control and Promotion Regulations (DCPR) 2034 of Mumbai:
1. The quantum of TDR generated is linked to the Ready Reckoner Rate of the generating and receiving plots.
2. TDR can be loaded universally on any plot without restrictions on road width.
3. Slum TDR constitutes a major portion of the TDR generated in the city.
4. The regulations mandate a maximum cap on the total allowable FSI, including base

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119. (B) An enclosed room built on a cantilever balcony

Building bye-laws distinguish between architectural projections and usable floor space. Minor features like weather shades, cornices, and open fire escapes are typically permitted to project beyond the building line without being counted in the Floor Area Ratio. However, an enclosed room built on a cantilevered balcony is considered habitable space and adds to the total built-up area. Therefore, it is not an exempt architectural projection and must be included in FAR calculations.

120. (C) SVAMITVA Scheme (MP Bhu-Adhikar)

The SVAMITVA scheme is a major initiative designed to provide legal ownership rights to residents in the village "Abadi" or inhabited areas. Using modern drone technology for mapping, the government prepares property cards for each household. In Madhya Pradesh, this process allows villagers to use their property as a financial asset for taking loans and provides them with clear, documented title rights over their residential land in rural areas.

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(C) 3, 2, 1, 4
(D) 4, 2, 3, 1

37. Identify the INCORRECT pair regarding the challenges of TDR implementation.
(A) Market depth issues – where insufficient participants lead to volatile TDR prices.
(B) Double-dipping – a situation where landowners receive multiple types of compensation for the same parcel.
(C) Infrastructure strain – from loading TDR without augmenting water or traffic networks.
(D) TDR hoarding – speculators buying certificates to create artificial market scarcity.

38. Consider the following issues commonly associated with the TDR market:
1. Fluctuations in real estate demand directly impact the financial viability of TDR.
2. Lack of transparency in TDR trading can lead to cartelization by large developers.
3. High premium charges levied by municipal authorities for base FSI encourage the purchase of TDR.
4. TDR generation is always an instantaneous process with zero administrative delays.

Which of the statements given above are correct?
(A) 1 and 2
(B) 1, 2 and 3
(C) 2, 3 and 4
(D) 1, 3 and 4

39. Consider the following two statements regarding Transferable Development Rights and identify the correct assessment:
Statement I: Floating TDR allows the development rights generated from one plot to be utilized anywhere within the municipal limits subject to zoning regulations.
Statement II: Location-specific TDR strictly confines the utilization of development rights to a predefined geographic zone to prevent uneven densification.
(A) Statement I is correct and Statement II is correct.
(B) Statement I is incorrect and Statement II is correct.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is incorrect.

40. Which of the following is NOT typically a limitation or restriction placed on receiving zones for TDR utilization?
(A) Blanket prohibition on using TDR for any form of residential construction.
(B) Road width restrictions requiring a minimum Right of Way (RoW) to consume TDR.
(C) Maximum permissible cap on the total FSI (Base + TDR + Premium).
(D) Zoning restrictions preventing TDR loading in ecologically sensitive or congested heritage precincts.

41. In the context of Mumbai's Slum Rehabilitation scheme, what is the term used for the built-up area constructed specifically to house the eligible slum dwellers?
(A) Sale Component
(B) Rehabilitation Component
(C) Base Component
(D) Floating Component

42. A developer owns a 1,000 sq.m plot in a receiving zone where the base FAR is 1.0. The regulations permit a maximum FAR of 2.0, provided the additional FAR is procured via TDR. If the developer purchases 500 sq.m of TDR, what is the total built-up area the developer can construct on the plot?
(A) 1,000 sq.m
(B) 1,500 sq.m
(C) 2,000 sq.m
(D) 2,500 sq.m

43. Which of the following statements most accurately describes the pricing mechanism in a free TDR market?
(A) Prices fluctuate based on supply and demand dynamics within the real estate market.
(B) Prices are fixed statically by the central government across all states and cities.
(C) TDR is provided free of cost to developers building luxury housing in prime areas.
(D) Prices are strictly tied to the global stock market index and gold valuation trends.

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agricultural yield of the land parcels prior to their conversion for formal urbanization.
(D) The financial penalty charged to individual landowners who refuse to surrender their land parcels during the pooling process.

18. A planning authority deducts 40% of the pooled land for public purposes. If the total cost of infrastructure development is Rs. 100 Crores, and the expected revenue from the sale of 10% of the land reserved for commercial exploitation is Rs. 60 Crores, what amount must be recovered through betterment charges to make the scheme financially self-sustaining?
(A) Rs. 10 Crores
(B) Rs. 40 Crores
(C) Rs. 60 Crores
(D) Rs. 100 Crores

19. Which of the following is a correct statement regarding deductions for open spaces and amenities under a standard Town Planning Scheme?
(A) Statutory ceilings usually limit total land deductions to approximately 40-50% of the original plot area.
(B) Deductions are arbitrarily decided by the Town Planning Officer without any statutory upper limit or public oversight.
(C) The land deducted for public amenities remains legally owned by the original landowner, who then leases it to the city.
(D) Deducted land can only be utilized for road widening and strictly prohibits use for social infrastructure like schools.

20. A rapidly expanding tier-II city is experiencing severe traffic congestion on its peripheral arterial roads due to ribbon development on fragmented agricultural plots. The municipal corporation has limited capital for direct land acquisition. Which of the following interventions would be the most appropriate strategy to widen the roads and provide planned neighborhood infrastructure?
(A) Imposing a blanket ban on all construction activities for the next two decades within the city's peripheral limits.
(B) Using the Land Acquisition Act to forcefully acquire all plots along the road for auctioning to private foreign developers.
(C) Regularizing existing development by providing free infrastructure without any plot boundary alterations or land contribution.
(D) Implementing a compulsory TPS to readjust plots, deduct land for road widening, and finance it through betterment levies.

21. Which term best describes a policy tool where government limits the amount of land an individual or entity can hold to acquire surplus land for distribution or public urban development?
(A) Land readjustment
(B) Urban land ceiling
(C) Land value tax
(D) Transferable development rights

22. In the context of TPS cost recovery, how are betterment charges typically structured to ensure fairness among landowners?
(A) Charges at a flat rate per square meter regardless of the plot's specific location, accessibility, or usage.
(B) Calculated based solely on the landowner's annual income tax return and overall financial net worth.
(C) Charges proportional to the specific increment in land value experienced by each reconstituted plot.
(D) Determined randomly by the municipal commissioner to cross-subsidize infrastructure in poorer neighborhoods.

23. When evaluating the implementation of TPS in major cities of Madhya Pradesh, such as Indore and Bhopal, what has historically been a significant administrative bottleneck?
(A) Excessive availability of government-owned vacant land making land pooling methods redundant.
(B) Strict international embargoes on utilizing land pooling methods within the central Indian states.
(C) Compulsory requirement to fund all TPS projects exclusively through high-interest Foreign Direct Investment.
(D) Lack of integration between revenue department cadastral maps and master plan proposals.

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51. Which of the following statements regarding Impact Fees is INCORRECT?
(A) Impact fees are designed solely as a punitive measure to permanently halt urban expansion and greenfield development.
(B) Impact fees are one-time charges levied on developers to offset the financial impact of new development on public infrastructure.
(C) They are typically assessed before the issuance of building permits or development approvals.
(D) The calculation of impact fees is generally linked to the proportionate share of capital costs for new infrastructure required by the development.

52. Match the Land Value Capture (LVC) instruments in List I with their descriptions in List II.
List I: (LVC Instrument)
P. Betterment Levy
Q. Tax Increment Financing (TIF)
R. FAR Premium
S. Vacant Land Tax
List II: (Description)
1. Borrowing against the future increase in property tax revenues generated by a specific development project.
2. A direct charge for purchasing additional development rights beyond the base permissible limit.
3. An annual tax aimed at discouraging land hoarding and promoting efficient land use.
4. A one-time charge imposed on landowners who benefit directly from a specific public improvement.
(A) P-4, Q-1, R-2, S-3
(B) P-1, Q-4, R-3, S-2
(C) P-4, Q-2, R-1, S-3
(D) P-2, Q-1, R-4, S-3

53. How is the concept of Tax Increment Financing (TIF) strictly defined in urban finance?
(A) Method of funding public projects by increasing universal income tax across the city.
(B) Financing tool capturing future incremental property tax revenue to pay for project costs.
(C) Penalty tax imposed on developers who fail to complete projects within timeframes.
(D) Mechanism for waiving all municipal taxes for foreign investors for a fixed period.

54. Consider the following statements regarding the computation of Development Charges:
1. They are usually calculated based on the plot area or total built-up area.
2. The rates differ significantly depending on the proposed land use (e.g., residential vs. commercial).
3. Internal Development Charges (IDC) are generally recovered by the local authority to build city-level trunk infrastructure.
4. Development charges must be paid uniformly regardless of whether the land is situated in a high-density core or a low-density fringe.
Which of the above statements is/are correct?
(A) 1 and 2
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

55. The City and Industrial Development Corporation (CIDCO) of Maharashtra heavily utilized the "Land Banking" model to develop Navi Mumbai. How does land banking function as a Land Value Capture mechanism in this context?
(A) Selling all acquired land immediately at agricultural rates to private developers.
(B) Converting the land into an international bank headquarters to generate employment.
(C) Collecting daily tolls from vehicles passing through the undeveloped land parcels.
(D) Acquiring land at low costs, developing infrastructure, and auctioning plots at market value.

56. Identify the correct pair regarding the financing of the Hyderabad Metro Rail project.
(A) Transit-Oriented Development – Using TOD rights to allow high-density commercial space near stations for premiums.
(B) Direct Grant – Relying on a 100% direct infrastructure grant from the World Bank for the project.
(C) Property Sales Tax – Enforcing a strict 50% tax on the sale of all residential properties in the city.
(D) Agricultural Assessment – Creating special assessment districts on agricultural lands

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(D) 1, 2 and 3

111. Consider the following two statements regarding land banks and identify the correct assessment:
Statement I: The establishment of a land bank involves proactive public acquisition of land ahead of the demand to ensure systematic urban expansion.
Statement II: Land banks are completely ineffective in stabilizing land market prices during periods of rapid urbanization.
(A) Statement I is correct and Statement II is correct.
(B) Statement I is incorrect and Statement II is correct.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is incorrect.

112. Which of the following factors is NOT considered when determining the eligibility for regularisation of an unauthorized colony under typical state policies?
(A) Whether the land falls under environmentally sensitive or prohibited zones (e.g., riverbeds, forest land).
(B) The percentage of plots that have already been built upon.
(C) Whether the land belongs to the government, public authority, or has disputed titles.
(D) The astrological alignment of the colony's main entrance.

113. In which year was the Urban Land (Ceiling and Regulation) Repeal Act passed by the Parliament of India, leading to its subsequent adoption by various states including Madhya Pradesh?
(A) 1985
(B) 1999
(C) 2005
(D) 2014

114. An unauthorized residential colony has come up on agricultural land without obtaining land use diversion or layout approval. To regularize this under government policy, the planner must calculate the compounding fee. What forms the fundamental basis for calculating this fee?
(A) Physical weight of building materials used for construction in the colony.
(B) Highest educational qualification of the colonizer responsible for the site.
(C) Prevailing collector guideline rate of the land and the total area involved.
(D) Fixed nominal fee of Rs. 100 regardless of the actual size of the colony area.

115. Which of the following statements correctly identifies the core objective behind creating an Urban Land Information System (ULIS)?
(A) Providing a transparent spatial database aiding planning, taxation, and legal clarity.
(B) Increasing the opacity of land transactions to protect large-scale land hoarders.
(C) Replacing the physical geography of the city with a virtual reality simulation.
(D) Ensuring that municipal planning departments require more manual administrative staff.

116. A municipal corporation requires a private plot to build a water treatment plant designated in the master plan. The owner refuses to sell it voluntarily or accept TDR. What is the ultimate legal recourse available to the municipal corporation to execute the master plan?
(A) Executing forcible eviction without any established legal or judicial process.
(B) Implementing a compulsory Town Planning Scheme to confiscate the land parcel.
(C) Abandoning the master plan proposal permanently to avoid legal confrontations.
(D) Invoking the Right to Fair Compensation in Land Acquisition Act, 2013.

117. How is "Urban Land Speculation" defined in the context of land management?
(A) Scientific study of soil properties for structural foundation design projects.
(B) Purchasing and holding land for market appreciation rather than developing it.
(C) Architectural rendering of future skyscrapers for city promotional material.
(D) Administrative allocation of land parcels to marginalized local communities.

118. A state government possesses a large inventory of surplus land from a defunct state transport corporation depot located in the city center. What is the most socio-economically beneficial

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63. Consider the following two statements regarding the Hyderabad Metro project and identify the correct assessment:
Statement I: The Hyderabad Metro project heavily utilized the Public-Private Partnership (PPP) model integrated with Transit-Oriented Development rights.
Statement II: The private concessionaire in the Hyderabad Metro was strictly forbidden from undertaking any real estate development at the stations.
(A) Statement I is correct and Statement II is correct.
(B) Statement I is incorrect and Statement II is correct.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is incorrect.

64. Which of the following land parcels is typically granted an exception or exemption from paying a Betterment Levy during a public infrastructure project?
(A) Commercial plots directly abutting a newly constructed federal highway.
(B) Plots belonging to large private real estate developers in urban cores.
(C) High-income residential plots experiencing a 50% increase in market value.
(D) Land utilized for public religious worship or public charitable hospitals.

65. Which major Indian city is noted for successfully utilizing land monetization and the sale of development rights to self-finance a significant portion of its Mass Rapid Transit System infrastructure?
(A) Delhi (through DMRC's ventures)
(B) Kanpur (commercial hubs)
(C) Ranchi (transit zones)
(D) Guwahati (retail area)

66. A new metro station causes the land value of a nearby commercial plot to increase from Rs. 10,000 per sq.m to Rs. 15,000 per sq.m. If the local municipal act stipulates a betterment levy of 50% on the unearned increment, what is the betterment levy amount per square meter payable by the landowner?
(A) Rs. 2,500
(B) Rs. 5,000
(C) Rs. 7,500
(D) Rs. 10,000

67. Which of the following is the most accurate statement regarding the relationship between public investment and private land value?
(A) Public investment in amenities like parks and transit networks generally increases land values.
(B) Public investment in infrastructure projects invariably leads to a decrease in adjacent values.
(C) Private land values are completely independent of public infrastructure or transit investments.
(D) Public investment only increases the value of government-owned land designated for offices.

68. A city plans to revitalize a declining downtown area by installing decorative street lighting, improved pedestrian sidewalks, and enhanced security. The local businesses agree to pay a surcharge on their property taxes for the next ten years to fund this. This scenario is a classic application of which mechanism?
(A) Compulsory Town Planning Scheme
(B) Statutory Land Readjustment Model
(C) External Development Charge Levy
(D) Business Improvement District

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69. What is the fundamental definition of an "FAR Premium" in the context of urban planning?
(A) Discount given to developers who build low-income housing in core sectors.
(B) Charge for allowing a developer to build floor area beyond the standard base limit.
(C) Penalty imposed on buildings that violate setback regulations in heritage zones.
(D) Annual tax collected for maintaining public parks and recreational open spaces.

70. A municipal corporation designates an old industrial zone as a TIF (Tax Increment Financing) district to fund new roads. The base property tax revenue is Rs. 10 million. Five years later, due to redevelopment, the tax revenue is Rs. 15 million. How is the Rs. 5 million increment utilized under a standard TIF model?
(A) Redirected to the state government's general

education fund for rural schools.
(B) Refunded directly to the private developers as a cash bonus for project speed.
(C) Used specifically to service debt incurred for infrastructure in that district.
(D) Utilized to reduce the base property tax to Rs. 5 million for the next decade.

71. In the context of the Smart Cities Mission implemented in Madhya Pradesh cities like Bhopal and Indore, which concept relies heavily on capturing land value through dense, mixed-use commercial development?
(A) Pan-City ICT Solutions
(B) Heritage Demolition Policy
(C) Universal Basic Income
(D) Area Based Development (ABD)

72. The fundamental rationale behind Land Value Capture (LVC) was heavily influenced by the economic theories of which classical economist who advocated for a single tax on land value?
(A) Henry George
(B) Adam Smith
(C) Karl Marx
(D) John Maynard Keynes

73. The urban regeneration projects in the old city area of Bhopal often focus on which key aspect due to the dense traditional urban fabric?
(A) Complete demolition and construction of glass skyscrapers in core areas.
(B) Conservation of heritage structures integrated with infrastructure upgrading.
(C) Conversion of the entire old city into an industrial manufacturing zone.
(D) Widespread application of the Gujarat Town Planning Scheme model locally.

74. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.
Assertion (A): Urban renewal and urban redevelopment are identical concepts in urban planning.
Reason (R): Urban redevelopment projects frequently involve the complete clearance of existing structures to facilitate new land use patterns.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

75. Which of the following statements regarding Brownfield sites is INCORRECT?
(A) Brownfield sites refer to pristine agricultural lands waiting for development.
(B) Brownfield sites are previously developed lands that are not currently in use.
(C) They often pose challenges related to real or perceived environmental pollutants.
(D) Redevelopment of brownfield sites helps in curbing unplanned urban sprawl.

76. Match the sub-missions of the erstwhile Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in List I with their specific focus areas in List II.
List I: (JNNURM Sub-Mission)
P. UIG (Urban Infrastructure and Governance)
Q. UIDSSMT (Urban Infrastructure Development Scheme for Small and Medium Towns)
R. BSUP (Basic Services to the Urban Poor)
S. IHSDP (Integrated Housing and Slum Development Programme)
List II: (Focus Area)
1. Housing and slum development specifically in mega cities.
2. Infrastructure projects focused on small and medium towns.
3. Slum development and basic services in non-mission cities/towns.
4. Large scale infrastructure projects (water supply, sewerage) in mission cities.
(A) P-4, Q-2, R-1, S-3
(B) P-1, Q-3, R-4, S-2
(C) P-4, Q-1, R-2, S-3
(D) P-2, Q-4, R-3, S-1

77. How is "In-situ Slum Redevelopment" accurately defined?
(A) Relocating slum dwellers to peripheral areas outside the city limits near industrial hubs.
(B) Upgrading existing dwellings by providing infrastructure without altering housing structures.
(C) Paying slum dwellers a one-time cash settlement to voluntarily vacate the land

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permanently.
(D) Providing permanent multi-story housing on the same site with private developer participation.

78. Consider the following statements regarding Heritage Conservation and Adaptive Reuse:
1. Adaptive reuse involves changing the function of a heritage building while retaining its structural and historical integrity.
2. It often proves to be an economically viable alternative to demolition and new construction.
3. Adaptive reuse strictly prohibits the installation of modern amenities like HVAC or elevators in the building.
4. It plays a crucial role in the urban regeneration of historical core areas.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

79. A prominent high street is losing footfall to peripheral shopping malls. The shop owners form an association, agree to a minor self-imposed tax, and use the funds to hire private street sweepers, install public seating, and run marketing campaigns. Which urban management concept is being applied here?
(A) Town Planning Scheme
(B) Business Improvement District (BID)
(C) Tax Increment Financing (TIF)
(D) Land Readjustment

80. Identify the correct pair regarding urban regeneration strategies.
(A) Greenfield development – Redeveloping abandoned industrial mills in the city center.
(B) Cluster development – Subdividing a large plot into isolated, disconnected tiny plots with maximum individual setbacks.
(C) Adaptive reuse – Razing a heritage structure to build a memorial park.
(D) Dilapidated building redevelopment – Usually incentivized through additional FSI to developers to offset the cost of rehousing existing tenants.

81. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.
Assertion (A): The FSI incentive model for slum redevelopment ensures that the project is financially viable without requiring massive direct government capital expenditure.
Reason (R): Developers recover the cost of constructing free housing for slum dwellers by utilizing the incentive FSI to build and sell additional apartments in the open market.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

82. Which of the following is the most appropriate approach for the regeneration of a historically significant high street and market area?
(A) Total demolition to widen the road for high-speed vehicular traffic.
(B) Forcibly relocating all commercial activities to the city fringes and converting the street into a residential-only zone.
(C) Implementing pedestrianization, facade restoration, and unified signage regulations while maintaining commercial activity.
(D) Constructing a large-scale heavy manufacturing plant at the center of the street.

83. Match the urban interventions in List I with their primary operational context in List II.
List I: (Urban Intervention)
P. Brownfield Redevelopment
Q. Slum Upgrading
R. Cluster Development
S. Adaptive Reuse
List II: (Operational Context)
1. Amalgamation of small adjacent plots to enable comprehensive planning and higher FSI consumption.
2. Repurposing old, disused textile mills for commercial IT parks.
3. Converting an abandoned palace into a heritage hotel.
4. Providing paved pathways, water supply, and toilets without structural demolition.
(A) P-2, Q-4, R-1, S-3

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(B) P-1, Q-2, R-4, S-3
(C) P-2, Q-1, R-3, S-4
(D) P-3, Q-4, R-1, S-2

84. Arrange the following national urban missions and programs in chronological order of their launch:
1. Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
2. Mega City Scheme
3. Jawaharlal Nehru National Urban Renewal Mission (JNNURM)
4. Rajiv Awas Yojana (RAY)

(A) 2, 3, 4, 1
(B) 3, 2, 1, 4
(C) 2, 4, 3, 1
(D) 3, 4, 2, 1

85. Identify the INCORRECT pair concerning urban renewal typologies.
(A) Urban Redevelopment – Involves clearance of existing structures and comprehensive rebuilding.
(B) Urban Revitalization – Purely focuses on ecological restoration of natural wetlands without addressing socio-economic decline.
(C) Urban Conservation – Focuses on preserving and protecting historically significant built environments.
(D) Urban Rehabilitation – Repairing and modifying existing structures to a usable condition while preserving their original character.

86. Consider the following statements regarding the Basic Services to the Urban Poor (BSUP) sub-mission under JNNURM:
1. It aimed at providing housing and basic amenities to slum dwellers.
2. Beneficiary contribution was completely waived for all categories of urban poor.
3. It required state governments to undertake mandatory reforms like the repeal of the Urban Land Ceiling Act.
4. Security of tenure was one of the fundamental objectives of the program.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2, 3 and 4

87. Consider the following two statements regarding dilapidated building redevelopment and identify the correct assessment:
Statement I: The redevelopment of old, dilapidated buildings often faces hurdles due to the presence of multiple tenants protected by outdated rent control acts.
Statement II: Cluster development policies aim to overcome this by incentivizing the amalgamation of multiple small dilapidated buildings into a larger, economically viable redevelopment project.
(A) Statement I is correct and Statement II is correct.
(B) Statement I is incorrect and Statement II is correct.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is incorrect.

88. Which of the following is typically NOT considered a constraint in implementing the Cluster Development Scheme in dense inner-city areas?
(A) Availability of massive tracts of vacant greenfield land within the inner city.
(B) Difficulty in achieving the minimum required plot size due to fragmented ownership.
(C) Securing 100% consent from all landowners and tenants involved.
(D) Inadequate capacity of existing infrastructure networks to support the increased density post-redevelopment.

89. Under the typical Business Improvement District (BID) model globally, how are the localized improvements primarily funded?
(A) Solely through foreign direct investments for urban beauty and landscaping.
(B) Through a mandatory assessment collected from property owners within the district.
(C) Through universal property tax increases across the entire metropolitan area.
(D) By deducting from the salaries of all municipal employees on a monthly basis.

90. An urban planner is tasked with dealing with an abandoned 19th-century railway warehouse located centrally. The structure is robust,

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possesses unique architectural features, but the zoning is now commercial. What is the most sustainable and economically viable renewal strategy?
(A) Execute an adaptive reuse project to convert the warehouse into a shopping arcade.
(B) Demolish the warehouse and leave the land vacant for future speculative interest.
(C) Implement a large-scale slum rehabilitation scheme within the existing warehouse.
(D) Convert it back to an active freight rail terminal despite its central location.

91. Which of the following statements correctly differentiates urban renewal from urban redevelopment?
(A) Renewal is a broad process including conservation, whereas redevelopment is demolition.
(B) Renewal strictly prohibits private developer involvement, whereas redevelopment is private.
(C) Renewal is applied only to agricultural lands, whereas redevelopment applies to industry.
(D) There is no conceptual difference; the terms are completely interchangeable in statutes.

92. A city possesses a vast 50-acre abandoned textile mill site in its core. To regenerate this brownfield site, the master plan mandates that 33% of the land be surrendered for public open spaces, 33% for public housing, and allows the remaining 34% to be developed commercially by the owner with a high FSI. This case is a classic example of:
(A) Land pooling and reconstitution.
(B) Tax Increment Financing.
(C) Incentive zoning for brownfield redevelopment.
(D) Transferable Development Rights generation only.

93. How is a "Brownfield" site formally defined in urban planning discourse?
(A) A site covered heavily with brown, unfertile agricultural soil in rural areas.
(B) A site that is strictly reserved for the construction of government-owned buildings.
(C) A newly leveled greenfield site ready for immediate construction of new housing.
(D) Real estate whose reuse is complicated by the potential presence of hazardous substances.

94. Implementing a high street pedestrianization project as an urban regeneration tool typically involves which of the following core concepts?
(A) Increasing the Right of Way for multi-lane high-speed vehicular traffic.
(B) Demolishing retail shops to create a massive surface parking lot nearby.
(C) Prioritizing sidewalks and public spaces to boost local retail economies.
(D) Replacing all historic street elements with standardized highway signage.

95. In the context of Madhya Pradesh, massive urban regeneration and infrastructure upgrading surrounding historic and religious precincts, such as the Mahakal Mahalok corridor, primarily aims to boost which sector?
(A) Heavy manufacturing and metallurgy.
(B) Pilgrimage tourism and local traditional economies.
(C) IT and software development.
(D) Agricultural exports.

96. The Integrated Housing and Slum Development Programme (IHSDP) under JNNURM primarily targeted which category of urban settlements?
(A) The 65 identified mega and million-plus population mission cities.
(B) Exclusively regional cantonment boards and local military stations.
(C) Rural villages with a total resident population of less than 1,000.
(D) Small and medium towns not covered under the primary mission list.

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97. In Madhya Pradesh, which online portal serves as a comprehensive platform for citizens to access digital land records, including Khasra, Khatouni, and cadastral maps?
(A) Bhu-Adhikar (MP Bhulekh)
(B) Bhoomi-RERA
(C) E-Nagar Palika
(D) MP-TownPlan

98. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.

Assertion (A): The modernization of cadastral mapping through digital technologies is essential for effective urban land management.
Reason (R): Accurate digital land records eliminate all possibilities of rural-to-urban migration.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

99. Which of the following statements regarding the regularisation of unauthorized colonies in Madhya Pradesh is INCORRECT?
(A) Regularisation permanently exempts the residents from paying property taxes in the future.
(B) The process generally involves levying development charges on the residents to provide basic infrastructure.
(C) Layout plans of the colony must be prepared and formally approved by the competent authority.
(D) Land earmarked for public utilities and roads within the colony must be legally transferred to the local body.

100. Match the land management tools and programs in List I with their primary objectives in List II.
List I: (Land Management Tool/Program)
P. DILRMP
Q. Land Bank Concept
R. Urban Land Ceiling Act (Repealed)
S. Land Use Change Permission
List II: (Primary Objective)
1. To acquire, consolidate, and hold land for future planned urban development and housing.
2. To modernize and computerize land records and spatial data.
3. To regulate the conversion of agricultural land to non-agricultural urban uses.
4. To prevent the concentration of urban land in the hands of a few individuals and curb speculation.
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-4, Q-1, R-2, S-3

101. What does the term "Urban Land Information System (ULIS)" refer to?
(A) A daily newspaper published by the municipality detailing current property prices.
(B) GIS-based database integrating spatial land parcels with ownership and land use data.
(C) A physical filing cabinet system maintained exclusively by the local village Patwari.
(D) A network of physical signboards displaying master plan maps throughout the city.

102. Consider the following statements regarding the process of Land Use Change permission:
1. It allows a landowner to legally alter the land use designated in the statutory Master Plan.
2. The process usually requires the publication of a public notice to invite objections and suggestions.
3. It is completely exempt from any scrutiny by the Town and Country Planning Department.
4. A premium or conversion charge is typically levied by the state government for granting this permission.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

103. A Master Plan reserves a privately owned plot for a "Public Park." The owner wants to construct a commercial complex. According to standard urban planning statutes, how is this reservation enforced?
(A) Requirement for the owner to build the complex but paint its exterior green.
(B) Automatic cancellation of the reservation if the owner pays double property tax.
(C) Immediate arrest of the owner for intending to build on a reserved garden plot.
(D) Denial of building permission followed by land acquisition or granting of TDR.

104. Identify the correct pair concerning land records modernization.
(A) Khasra – recording details of land ownership, area, and crop details.
(B) Cadastral map – showing the large-scale

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climatic variations of a region.
(C) DILRMP – aimed at increasing the manual paperwork in revenue court levels.
(D) Land Titling – process of intentionally clouding property ownership rights.

105. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.
Assertion (A): The Urban Land (Ceiling and Regulation) Act, 1976 (ULCRA) was eventually repealed by the central government.
Reason (R): It largely failed to acquire significant surplus land and instead constrained the supply of land, leading to rampant speculation and rising real estate prices.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

106. Which of the following is the most appropriate land policy tool to control urban land speculation and hoarding of vacant plots within city limits?
(A) Providing massive subsidies for buying secondary homes.
(B) Imposing a heavy Vacant Land Tax or idle land tax.
(C) Reducing the property registration stamp duty to zero.
(D) Banning all high-rise construction.

107. Match the public land inventory categories in List I with their respective examples in List II.
List I: (Public Land Category)
P. Institutional Land
Q. Utility and Infrastructure Land
R. Recreational/Open Space
S. Revenue/Nazul Land
List II: (Example)
1. Government-owned vacant parcels originally belonging to the state.
2. Land occupied by water treatment plants and electrical sub-stations.
3. Campuses of government universities and hospitals.
4. Protected urban forests and large public maidans.
(A) P-3, Q-2, R-4, S-1
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-2, S-1
(D) P-2, Q-3, R-1, S-4

108. Arrange the typical procedural steps for processing a major Land Use Change request in chronological order:
1. Final gazette notification of the modified land use.
2. Submission of the application with required documents and justification.
3. Publication of public notice inviting objections and suggestions.
4. Technical scrutiny by the Town and Country Planning Directorate.
(A) 2, 4, 3, 1
(B) 2, 3, 4, 1
(C) 4, 2, 3, 1
(D) 3, 2, 4, 1

109. Identify the INCORRECT pair regarding public land utilization.
(A) Government land for affordable housing – Reduces the land cost component, making housing cheaper.
(B) Public land inventory – A systematic database of all land assets owned by various government departments.
(C) Surplus land utilization – Reallocating excess land from defunct public enterprises for new infrastructure.
(D) Land bank – A financial institution that issues credit cards to farmers.

110. Consider the following statements regarding the Digital India Land Records Modernization Programme (DILRMP):
1. It aims to usher in a system of conclusive property titles with title guarantee.
2. It involves the computerization of registration processes and integration with land records.
3. It strictly focuses on mapping underground mineral resources rather than surface ownership.
4. The digitization of cadastral maps is a core component of this programme.
Which of the above statement(s) is/are correct?
(A) 1, 2 and 4
(B) 2, 3 and 4
(C) 1, 3 and 4

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outside the city limits.

57. Given below are two statements, one labeled as Assertion (A) and the other as Reason (R). Select the correct answer from the options provided.
Assertion (A): Charging an FAR premium is an effective method of land value capture for municipal corporations.
Reason (R): It allows authorities to monetize the additional development rights created by zoning relaxations, generating revenue that can be reinvested in urban infrastructure.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

58. Which of the following is considered an "annual" Land Value Capture instrument rather than a one-time charge?
(A) Impact Fee
(B) Land Value Tax (LVT)
(C) External Development Charge (EDC)
(D) Sale of Development Rights

59. Match the type of development charge in List I with its corresponding responsibility and scope in List II.
List I: (Development Charge Type)
P. Internal Development Charges (IDC)
Q. External Development Charges (EDC)
R. Impact Fee
S. Premium FSI Charge
List II: (Responsibility and Scope)
1. Levied to mitigate the strain on city-wide trunk infrastructure caused by a new project.
2. Paid to acquire extra built-up area beyond the base permissible limit.
3. Cost of providing infrastructure like neighborhood roads and water lines within the colony layout.
4. Cost of connecting the colony layout to the city-level arterial roads and main sewer lines.
(A) P-3, Q-4, R-1, S-2
(B) P-4, Q-3, R-2, S-1
(C) P-3, Q-1, R-4, S-2
(D) P-1, Q-2, R-3, S-4

60. Arrange the following steps typically involved in executing a Tax Increment Financing (TIF) project in chronological sequence:
1. Freezing the base property tax assessment in the designated district.
2. Designation of a specific geographic area as a TIF district.
3. Using the incremental tax revenue to pay off the bonds/debt.
4. Issuing bonds to finance public infrastructure improvements within the district.
(A) 2, 1, 4, 3
(B) 1, 2, 3, 4
(C) 2, 4, 1, 3
(D) 4, 2, 1, 3

61. Identify the INCORRECT pair regarding Land Value Capture mechanisms.
(A) Special Assessment District – An area where additional property taxes are levied to fund specific local improvements like streetscaping.
(B) Development Charge – A fee levied to cover the cost of administrative planning and infrastructure provision.
(C) Betterment Levy – A charge on the unearned increment in land value resulting from public action.
(D) Land Value Tax – A tax assessed on the value of buildings and improvements rather than the underlying land.

62. Consider the following statements regarding the sale of development rights by the government:
1. It is often used to auction additional FAR to developers along transit corridors.
2. It fundamentally decreases the density of the urban core.
3. It requires a robust real estate market to be financially successful.
4. Revenues generated can be ring-fenced to fund the specific transit infrastructure that created the value.
Which of the statements given above are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2, 3 and 4

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utilization of this land asset according to modern planning paradigms?
(A) Leaving it vacant indefinitely to accumulate wild vegetation and urban waste.
(B) Selling it secretly to a single private entity at rates far below the market.
(C) Developing a mixed-use transit-oriented hub with affordable housing components.
(D) Converting it into a permanent surface parking lot for abandoned city vehicles.

119. Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, any significant modification or change in the land use proposed in the finalized Development Plan (Master Plan) is ultimately sanctioned by which authority?
(A) The local Municipal Ward Councilor
(B) The Chief Minister's Office directly without technical review
(C) The Union Ministry of Housing and Urban Affairs
(D) The State Government

120. In the context of cadastral mapping and traditional land records in India, what is the standard scale commonly used for village/ revenue maps (Sajra)?
(A) 1:4,000 (often represented as 16 inches = 1 mile)
(B) 1:50,000
(C) 1:250,000
(D) 1:1,000,000

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and productivity of nearby land, leading to significant value increments. This phenomenon, often referred to as the unearned increment, provides the economic basis for Land Value Capture mechanisms used to fund further urban development.

68. (D) Business Improvement District
A Business Improvement District is an urban management tool where local property owners and businesses agree to a self-imposed tax surcharge. The collected funds are dedicated to localized improvements like streetscaping, enhanced security, and marketing within the district. This collaborative approach allows businesses to revitalize their neighborhood and boost local economic activity beyond the standard services provided by the municipal corporation.

69. (B) Charge for allowing a developer to build floor area beyond the standard base limit.
An FAR premium is a financial charge levied by a local authority on developers who wish to exceed the standard Floor Area Ratio for a plot. It allows for increased density while capturing a portion of the resulting economic benefit for the public. These funds are typically used to upgrade the infrastructure required to support the additional built-up area and population density.

70. (C) Used specifically to service debt incurred for infrastructure in that district.
Under a Tax Increment Financing model, the incremental tax revenue is the difference between the frozen base revenue and the increased revenue post-redevelopment. In this example, the five-million-rupee increment is ring-fenced for use within the designated district. Its primary purpose is to service the debt or pay off the bonds that were initially issued to finance the infrastructure improvements in that specific area.

71. (D) Area Based Development (ABD)
Area Based Development is a core component of the Smart Cities Mission in cities like Bhopal and Indore. It focuses on transforming specific parts of the city through dense, mixed-use development and infrastructure upgrading. This approach relies heavily on capturing land value increments to finance the projects, creating sustainable urban districts that serve as models for future development across the rest of the city.

72. (A) Henry George
The economic theory behind Land Value Capture was significantly influenced by Henry George. He advocated for a single tax on the value of land, arguing that the unearned increment resulting from community growth and public investment should belong to the public. His ideas remain foundational to modern urban planning tools that seek to capture land value to fund essential infrastructure and services.

73. (B) Conservation of heritage structures integrated with infrastructure upgrading.
Urban regeneration in the old city area of Bhopal focuses on preserving the traditional urban fabric while improving living conditions. Given the dense historical core, the strategy emphasizes the conservation of heritage structures integrated with essential infrastructure upgrades. This balanced approach protects the city's cultural identity while modernizing utilities and services to support the socio-economic needs of the resident population.

74. (D) A is false but R is true.
Urban renewal and urban redevelopment are not identical concepts. Urban renewal is a comprehensive process that includes conservation, rehabilitation, and redevelopment. Conversely, urban redevelopment is a specific strategy that often involves the complete clearance of existing structures to facilitate entirely new land use patterns. Understanding this distinction is crucial for selecting the appropriate planning intervention for different types of urban areas.

75. (A) Brownfield sites refer to pristine agricultural lands waiting for development.
Brownfield sites are previously developed lands, such as abandoned factories or warehouses, that are currently underutilized. Unlike greenfield sites, which are pristine agricultural or natural lands, brownfield redevelopment helps curb urban sprawl by reusing existing urban land. These projects often face challenges due to potential environmental contamination, which requires careful assessment and remediation before the land can be repurposed.

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Pooling Policy for the national capital, while betterment levies are standard statutory tools.

9. (A) Both A and R are true and R is the correct explanation of A.
Local authorities levy betterment charges under Town Planning Schemes to capture a portion of the unearned increment in land value. This increase in property value occurs because the authority provides physical infrastructure and social amenities like roads and parks. Recovering these costs ensures the financial sustainability of urban development projects and promotes equity among landowners benefitting from public investments.

10. (B) Pooling relies on voluntary surrender for incentives, while readjustment is enforced through statutory law regardless of individual consent.
The distinction between these land management models lies in the nature of participation. Voluntary land pooling depends on landowners agreeing to surrender their property in exchange for development incentives and reconstituted plots. Conversely, compulsory land readjustment is a statutory process where the government uses legal authority to reconstitute land for planned development, irrespective of individual landowner consent.

11. (A) P-1, Q-4, R-2, S-3
Each stage of a Town Planning Scheme serves a specific administrative function. The publication of the draft scheme freezes land values for financial calculations. The Town Planning Officer or Arbitrator handles individual grievances and micro-level adjustments. The preliminary scheme focuses on physical reconstitution and plot handover, while the final scheme determines the ultimate financial aspects and betterment charge recovery.

12. (A) 2, 4, 1, 3
Implementing a Town Planning Scheme follows a structured legal sequence to ensure fairness and transparency. The process begins with the declaration of intention, followed by the preparation and publication of the draft scheme. Subsequently, a Town Planning Officer is appointed to hear and resolve objections from landowners. Finally, the state government sanctions the final scheme for statutory implementation and enforcement.

13. (D) Annuity payment – Landless laborers receive zero financial assistance.
The Andhra Pradesh Land Pooling Scheme for Amaravati was designed as a participatory model where landowners voluntarily surrendered land for the new capital. While the Capital Region Development Authority managed infrastructure and returned commercial and residential plots, the scheme also addressed social equity. Landless laborers were provided with monthly annuity payments and financial assistance to mitigate the loss of agricultural livelihood.

14. (B) 1, 3 and 4
The Delhi Land Pooling Policy 2018 introduces a paradigm shift where the Delhi Development Authority acts as a facilitator and planner. It mandates the creation of Developer Entities through the consolidation of land parcels. The policy generally returns sixty percent of the land to these entities for development. However, forming a pooling sector requires a much larger area than a single hectare.

15. (C) Statement I is correct and Statement II is incorrect.
Managing village peripheral land is vital to prevent haphazard urban sprawl and the proliferation of unauthorized colonies. Effective planning ensures integrated growth. Contrary to the idea that land pooling mechanisms fail in these areas, they are specifically designed to incorporate village abadi lands into formal urban master plans. This integration provides residents with better infrastructure, legal status, and planned connectivity.

16. (D) Absolute prohibition of TPS provisions under the MP Nagar Tatha Gram Nivesh Adhiniyam.
Implementing Town Planning Schemes in Madhya Pradesh faces several practical hurdles, such as fragmented land records and a shortage of specialized Town Planning Officers. Landowner resistance often arises from a lack of trust in the process. However, the legal framework is not an obstacle, as the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam explicitly provides the statutory basis for these schemes.

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preservation and economic value. Owners of heritage properties often face financial losses due to strict regulations that prevent the expansion or demolition of their buildings. By issuing TDR certificates, the government provides these owners with tradable development credits, compensating them without requiring direct public expenditure.

34. (C) Grant of incentive FSI/TDR to build premium residential or commercial space for free sale.
Under the Slum Rehabilitation Authority model, private developers are incentivized to provide free housing for eligible slum dwellers. The primary motivation is the grant of incentive Floor Space Index or Transferable Development Rights. This allows developers to construct and sell premium residential or commercial units on the same site or elsewhere, thereby recovering their costs and generating a profit.

35. (A) P-1, Q-4, R-3, S-2
Various market factors influence the pricing and demand for TDR certificates. High base Floor Area Ratio in receiving zones lowers demand, while height restrictions act as physical barriers to consumption. Large-scale mandatory road widening projects can lead to an oversupply of certificates. Linking TDR values to property market rates ensures that the financial transfer between different urban sectors remains equitable.

36. (A) 2, 3, 4, 1
The evolution of TDR in Mumbai progressed through distinct stages. It was initially introduced to acquire land for public amenities. Subsequently, the mechanism was extended to incentivize slum rehabilitation projects. Later, heritage TDR was introduced to support conservation. The most recent significant milestone involved linking the quantum of TDR to Ready Reckoner Rates to ensure more balanced and equitable market transactions.

37. (B) Double-dipping – a situation where landowners receive multiple types of compensation for the same parcel.
TDR implementation faces several challenges, including market depth issues where low participation creates price volatility. Infrastructure strain occurs when additional density is added without upgrading utilities. Speculators can cause artificial scarcity through hoarding. However, double-dipping refers to receiving multiple forms of compensation, which is a regulatory risk rather than an inherent challenge of the TDR mechanism itself.

38. (B) 1, 2 and 3
The TDR market is influenced by real estate demand, which affects the financial viability of development credits. Lack of transparency can lead to cartelization by large-scale developers. High municipal premiums for base FSI encourage the purchase of TDR as a more cost-effective alternative. However, TDR generation is rarely instantaneous, as it involves significant administrative verification and procedural delays.

39. (A) Statement I is correct and Statement II is correct.
Floating TDR provides flexibility by allowing development rights to be utilized across broad municipal limits, provided they comply with local zoning laws. In contrast, location-specific TDR is a more restrictive tool designed to prevent uneven urban densification. It confines the utilization of development credits to specific geographic areas, ensuring that increased density is only permitted where infrastructure can support it.

40. (A) Blanket prohibition on using TDR for any form of residential construction.
TDR utilization is subject to various restrictions to manage urban density and safety. These include road width requirements for minimum right-of-way and maximum caps on total permissible Floor Space Index. Zoning laws also prevent loading TDR in ecologically sensitive or congested areas. However, there is typically no blanket prohibition on residential construction, as housing is a primary use for TDR.

41. (B) Rehabilitation Component
In Mumbai's Slum Rehabilitation scheme, the built-up area is divided into two main parts. The rehabilitation component consists of the residential units constructed specifically to house eligible slum dwellers for free. The sale component refers to the additional space the developer is permitted to build and sell in the open market to finance the project and generate profit.

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25. (B) Transferable Development Rights (TDR) / FAR incentives
In Madhya Pradesh, authorities utilize Transferable Development Rights and Floor Area Ratio incentives to facilitate road widening without direct financial compensation. Under the MP Bhumivikas Rules, landowners surrendering land for public utilities receive certificates allowing for additional construction elsewhere. This mechanism incentivizes participation by monetizing development potential while saving the municipal budget from the heavy costs of direct land acquisition.

26. (C) A is true but R is false.
Transferable Development Rights allow for the separation of a parcel's development potential from its physical ownership. While this mechanism enables the transfer of built-up area credits to other designated zones, it does not involve the physical movement of geological or structural features. Instead, it provides a financial and regulatory tool to compensate owners for development restrictions imposed on their land.

27. (A) TDR cannot be generated for preserving heritage buildings, as they are completely exempt from planning laws.
Transferable Development Rights are frequently generated for heritage conservation to compensate owners for restrictions on structural modifications. Heritage buildings are not exempt from planning laws; rather, they are subject to strict regulations. TDR allows owners to monetize the unconsumed development potential of these plots. Other common generators include land surrenders for road widening and participation in slum rehabilitation projects.

28. (A) P-1, Q-3, R-4, S-2
The TDR mechanism functions through designated spatial zones and project types. Receiving zones are areas with infrastructure capacity where surplus built-up area can be utilized. Generation zones include conservation areas where development is restricted. Slum TDR is awarded for providing rehabilitation housing, while heritage TDR compensates owners of culturally significant structures for the loss of development rights on their property.

29. (D) A tradable legal document specifying the quantum of built-up area a landowner is entitled to use or sell.
A TDR certificate is a tradable legal instrument issued by a local authority. It quantifies the amount of additional built-up area a landowner has earned by surrendering land or preserving a heritage site. This document allows the holder to either use the development rights on another plot or sell them in the open market to developers seeking higher density.

30. (B) 1, 3 and 4
Mumbai's DCPR 2034 regulates TDR by linking its quantum to Ready Reckoner Rates to ensure equitable value transfer. Slum rehabilitation projects serve as a major source of generated TDR. While the regulations allow for density increases, they strictly mandate a maximum cap on total allowable FSI and impose road width restrictions for loading. TDR cannot be used universally on any plot.

31. (B) Receiving zones have high base FAR, leaving no demand for additional TDR.
The financial success of a TDR mechanism depends on creating a strong market demand in receiving zones. If these zones already have a high base Floor Area Ratio, developers have little incentive to purchase additional development rights from the market. This lack of demand causes TDR certificates to remain unutilized, leading to a crash in their market value and system failure.

32. (D) Location-specific TDR – utilization is restricted to designated receiving zones.
Location-specific TDR ensures that additional development potential is only utilized within predefined geographic areas, preventing over-densification in vulnerable or congested neighborhoods. Floating TDR, by contrast, can typically be applied across larger parts of the city. Base FSI represents the standard permissible built-up area, while loading norms define the specific administrative and structural requirements for consuming additional TDR credits.

33. (A) Both A and R are true and R is the correct explanation of A.
TDR is an effective tool for heritage conservation because it resolves the conflict between

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ANSWERS

1. (A) The respective City or Town Development Authority
The Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, empowers Town or City Development Authorities to initiate Town Planning Schemes. These authorities declare their intention to prepare a scheme for specific areas. This statutory process facilitates systematic urban expansion by pooling land, providing infrastructure, and redistributing plots, ensuring planned development aligned with the master plan objectives.

2. (C) A is true but R is false.
The Town Planning Scheme is a successful land assembly tool because it avoids the hardships of bulk land acquisition. Unlike compulsory acquisition, where owners are permanently displaced and lose their land, the pooling model ensures that original landowners receive reconstituted plots within the same vicinity. Consequently, they benefit from the value increment provided by new public infrastructure and services.

3. (A) Reconstitution strictly forbids the transfer of ownership rights between private individuals and the local authority.
Reconstitution involves legally pooling land parcels and redistributing them as final plots. During this process, ownership rights are statutorily transferred to the local authority for planning purposes and then back to owners. This mechanism allows for boundary adjustments to create regular shapes. It ensures that every plot gains access to the new road network and essential urban amenities.

4. (A) P-3, Q-1, R-2, S-4
Different land assembly models utilize specific mechanisms for urban expansion. The Gujarat model focuses on statutory deductions for infrastructure and betterment charges. Amaravati employs voluntary pooling with developed plot returns. The Delhi 2018 policy uses developer entities for land consolidation. Finally, the Kukaku Seiri system is an internationally recognized Japanese model focusing on agricultural to urban land readjustment.

5. (B) Consolidating and planning contiguous land parcels with infrastructure before reconstituting them to owners minus a public use portion.
Land pooling is a collaborative urban development technique where multiple land parcels are consolidated for comprehensive planning. The authority provides essential infrastructure like roads and utilities within the pooled area. Afterward, the land is reconstituted and returned to original owners as smaller but more valuable serviced plots, after deducting a portion for public amenities and social infrastructure.

6. (B) 1, 3 and 4
The Town Planning Scheme process begins with a formal declaration in the official gazette. A designated Town Planning Officer handles individual grievances regarding plot boundaries and betterment charges to ensure transparency. Once finalized, the scheme becomes a statutory document with full legal force. Resolving all title disputes through civil courts is not a prerequisite for preparing the draft scheme.

7. (D) 1.40 hectares
In a Town Planning Scheme, land is deducted proportionately from all participating owners to provide for public infrastructure and amenities. With total deductions for roads, parks, and social amenities amounting to thirty percent of the pooled area, a landowner contributing two hectares will see a reduction of zero point six hectares. Thus, the final reconstituted plot returned is one point four hectares.

8. (A) Land Readjustment – Widely utilized in South Korea and Japan
Land readjustment is a globally recognized urban planning tool extensively used in East Asian countries like Japan and South Korea for organized expansion. In contrast, Town Planning Schemes are prominently featured in Western Indian states like Gujarat and Maharashtra. The Delhi Development Authority manages the Land

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42. (B) 1, 500 sq.m
The total built-up area on a plot is the sum of the base Floor Area Ratio and any additional rights loaded via TDR. With a plot size of one thousand square meters and a base FAR of one point zero, the base area is one thousand square meters. Adding five hundred square meters of purchased TDR results in a total of fifteen hundred square meters.

43. (A) Prices fluctuate based on supply and demand dynamics within the real estate market.
In a free market, TDR prices are not fixed by the government but are determined by economic forces. Demand for TDR is driven by real estate developers seeking to increase density in receiving zones. Supply is generated by landowners surrendering property or preserving heritage sites. Consequently, prices fluctuate based on the availability of certificates and the general health of the property market.

44. (C) Issuing a Heritage TDR certificate equal to the unconsumed FAR.
For owners of Grade-I heritage buildings where development is legally restricted, Heritage TDR serves as a non-monetary compensation tool. By issuing a certificate equal to the unconsumed Floor Area Ratio, the local authority allows the owner to monetize their development rights. This credit can be sold to developers in other parts of the city, providing financial relief without depleting public funds.

45. (D) Permissible built-up area attached to a plot without paying premium or loading TDR.
Base Floor Space Index represents the standard development right granted to a land parcel under existing zoning regulations. It is the amount of built-up area a landowner can construct by default without incurring additional costs like premium charges or purchasing TDR certificates. Any construction beyond this base limit requires the procurement of extra development rights through established statutory mechanisms.

46. (C) Ensure there is a viable, high-demand receiving zone for developers to buy the TDR.
For a TDR-based road widening strategy to be successful, the generated certificates must have market value. The city must ensure there are designated receiving zones where developers have a strong demand for additional Floor Area Ratio. Without a viable market for developers to purchase and utilize these rights, landowners will have no incentive to accept TDR as compensation for their land.

47. (B) The minimum abutting road width of the receiving plot.
In Madhya Pradesh, the utilization of Transferable Development Rights is strictly regulated to ensure that increased urban density does not overwhelm local infrastructure. A critical factor in determining the amount of TDR that can be loaded on a receiving plot is the width of the abutting road. This ensures that higher-density buildings are only located where the transportation network can accommodate them.

48. (D) Unbundling property rights, separating land ownership from development rights.
The fundamental rationale for TDR is the concept of unbundling property rights. This principle allows the development potential of a land parcel to be separated from the physical land itself. By treating development rights as a distinct, tradable commodity, urban planners can compensate landowners for development restrictions or land surrenders while allowing the density to be transferred to more suitable urban locations.

49. (A) Financing city-level off-site infrastructure that supports the new colony.
External Development Charges are levied on private colonizers to fund the creation of city-level trunk infrastructure. While internal infrastructure like local streets is the developer's responsibility, EDC covers off-site facilities such as arterial roads, major sewer lines, and water treatment plants. This ensures that new colonies are properly integrated into the broader city network and do not strain existing municipal services.

50. (A) Both A and R are true and R is the correct explanation of A.
Land Value Capture mechanisms are based on the principle of equity and public finance. Public investments, such as metro rail projects, create significant increases in the value of nearby private land. LVC aims to recover a portion of this unearned increment. This captured value is then reinvested into public infrastructure, ensuring

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that those who benefit from public spending contribute to its cost.

51. (A) Impact fees are designed solely as a punitive measure to permanently halt urban expansion and greenfield development.
Impact fees are one-time charges levied on developers to offset the financial burden that new projects place on public infrastructure. They are not punitive measures intended to stop development. Instead, these fees are calculated based on the proportionate cost of expanding services like parks, roads, and utilities. They are typically collected before building permits are issued to ensure infrastructure keeps pace with growth.

52. (A) P-4, Q-1, R-2, S-3
Land Value Capture instruments vary in their application and timing. A betterment levy is a one-time charge for benefits from specific public improvements. Tax Increment Financing involves borrowing against future increases in property tax revenue. FAR premiums are charges for purchasing additional development rights. Finally, a vacant land tax is an annual levy aimed at discouraging land hoarding and promoting efficient urban land use.

53. (B) Financing tool capturing future incremental property tax revenue to pay for project costs.
Tax Increment Financing is a specialized urban finance mechanism used to fund public infrastructure within a designated district. It works by freezing the base property tax revenue and capturing any future increases resulting from redevelopment. This incremental revenue is then utilized to service the debt or bonds issued to pay for the improvements that initially triggered the increase in property values.

54. (A) 1 and 2
Development charges are typically computed based on the total plot area or built-up area of a project. The rates often vary depending on the proposed land use, with commercial projects generally attracting higher charges than residential ones. While external charges fund city-level infrastructure, these fees are not applied uniformly across all locations; they often reflect the specific density and zone of the development.

55. (D) Acquiring land at low costs, developing infrastructure, and auctioning plots at market value.
CIDCO utilized land banking as a powerful Land Value Capture tool in the development of Navi Mumbai. By acquiring large tracts of land at initial agricultural rates, the authority could plan comprehensive infrastructure. As the area developed and land values rose, CIDCO auctioned plots at higher market prices. The resulting profits were then reinvested to fund further infrastructure and social amenities for the city.

56. (A) Transit-Oriented Development – Using TOD rights to allow high-density commercial space near stations for premiums.
The Hyderabad Metro Rail project leveraged Transit-Oriented Development as a key financing strategy. By granting higher development rights and allowing high-density commercial spaces near metro stations, the authority could charge significant premiums. This approach captures the increased land value generated by the transit project, providing a sustainable revenue stream to support the construction and operation of the mass transit system.

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57. (A) Both A and R are true and R is the correct explanation of A.
Charging an FAR premium is an effective method for municipal corporations to capture land value. When zoning regulations are relaxed to allow for higher density, the resulting increase in development potential creates financial value for the landowner. By monetizing these additional rights through a premium charge, authorities generate essential revenue that can be reinvested into upgrading city infrastructure and public services.

58. (B) Land Value Tax (LVT)
Land Value Tax is considered an annual Land Value Capture instrument because it is assessed periodically on the value of the underlying land. Unlike one-time charges such as impact fees or development charges, LVT provides a continuous revenue stream for the government. It discourages land speculation and encourages owners to develop their plots to their most efficient and productive use.

59. (A) P-3, Q-4, R-1, S-2
Development charges are categorized by their specific scope and responsibility. Internal charges cover infrastructure within a colony, such as neighborhood roads. External charges fund the connection of these colonies to the city-wide network. Impact fees mitigate the strain placed on trunk infrastructure by new projects. Finally, premium FSI charges are paid by developers to acquire additional built-up area beyond the standard permissible limit.

60. (A) 2, 1, 4, 3
Executing a Tax Increment Financing project follows a precise chronological sequence. First, a specific geographic area is designated as a TIF district. The base property tax assessment in that district is then frozen. Subsequently, bonds are issued to finance the necessary infrastructure improvements. Finally, the incremental tax revenue generated by the resulting development is used to pay off the project debt.

61. (D) Land Value Tax – A tax assessed on the value of buildings and improvements rather than the underlying land.
Land Value Tax is specifically assessed on the value of the land itself, excluding any buildings or improvements. This distinguishes it from standard property taxes. Other mechanisms include special assessment districts for local improvements, development charges for planning and infrastructure costs, and betterment levies, which capture the unearned increment in land value resulting from public actions or investments.

62. (B) 1, 3 and 4
The sale of development rights is a tool often used to auction additional Floor Area Ratio along transit corridors. This mechanism requires a robust real estate market to be financially successful. The generated revenues can be ring-fenced to fund the specific infrastructure that created the value. Contrary to decreasing density, these sales generally encourage higher density in well-connected urban areas.

63. (C) Statement I is correct and Statement II is incorrect.
The Hyderabad Metro project utilized a Public-Private Partnership model integrated with Transit-Oriented Development rights to ensure financial viability. This allowed the private concessionaire to capture land value increments. Far from being forbidden, the concessionaire was actively encouraged to undertake real estate development at stations. These commercial activities provide essential revenue streams to support the project's long-term sustainability and operational costs.

64. (D) Land utilized for public religious worship or public charitable hospitals.
While betterment levies are generally applied to properties that benefit from public infrastructure, certain exceptions are made for social and charitable purposes. Land utilized for public religious worship or charitable hospitals is typically exempt from these charges. In contrast, commercial and high-income residential plots experiencing significant value increments are primary targets for capturing unearned value to fund public works.

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65. (A) Delhi (through DMRC's ventures)
Delhi has successfully utilized land monetization and the sale of development rights to self-finance its Mass Rapid Transit System. Through various real estate ventures and the auctioning of commercial space at metro stations, the Delhi Metro Rail Corporation captures land value. This strategy provides a crucial non-fare revenue stream, reducing the project's reliance on direct government subsidies and ensuring operational efficiency.

66. (A) Rs. 2,500
A betterment levy captures a portion of the unearned increment in land value. In this scenario, the land value increased by five thousand rupees per square meter due to the new metro station. With a statutory levy of fifty percent on this increment, the amount payable by the landowner is two thousand five hundred rupees per square meter. This mechanism ensures public investment benefits are shared.

67. (A) Public investment in amenities like parks and transit networks generally increases land values.
There is a direct relationship between public infrastructure investment and private land value. Improvements such as parks, transit networks, and reliable utilities enhance the desirability

17. (A) Difference between the original plot value without infrastructure and the estimated value of the final plot with infrastructure.
In urban planning finance, the increment in value represents the financial gain experienced by a land parcel due to external factors. Specifically, it measures the difference between the initial market value of the raw land and the projected value of the final reconstituted plot after the provision of public infrastructure. This unearned increment forms the basis for calculating betterment charges.

18. (B) Rs. 40 Crores
To achieve financial self-sustainability in a Town Planning Scheme, the local authority must balance infrastructure costs against potential revenue. If the total development cost is one hundred crore rupees and the sale of reserved commercial land generates sixty crore rupees, a deficit remains. This remaining forty crore rupees must be recovered from the participating landowners through the levy of betterment charges.

19. (A) Statutory ceilings usually limit total land deductions to approximately 40-50% of the original plot area.
Standard Town Planning Schemes include statutory limits on how much land can be deducted from original parcels. These ceilings typically range between forty and fifty percent to ensure owners retain sufficient land. The deducted portions are utilized for essential public needs, including road widening and social infrastructure like schools. These areas are legally transferred to the local authority for public management.

20. (D) Implementing a compulsory TPS to readjust plots, deduct land for road widening, and finance it through betterment levies.
For cities facing ribbon development and traffic congestion on peripheral roads, a compulsory Town Planning Scheme offers an effective solution. This strategy allows the municipality to readjust fragmented agricultural plots and deduct land for road widening without large capital outlays for acquisition. The project is financed by capturing the value increment through betterment levies, ensuring sustainable and planned urban growth.

21. (B) Urban land ceiling
Urban land ceiling is a policy tool designed to promote equitable land distribution and curb speculative hoarding. By setting a statutory limit on the amount of urban land an individual or entity can hold, the government acquires surplus land for public purposes. This mechanism was historically used in India to provide land for affordable housing and urban development projects.

22. (C) Charges proportional to the specific increment in land value experienced by each reconstituted plot.
To ensure fairness in Town Planning Schemes, betterment charges are structured based on the principle of unearned increment. Instead of flat rates, these charges are calculated in proportion to the specific increase in land value each plot experiences. This ensures that landowners who benefit more from the authority's infrastructure investments contribute a higher, more equitable share toward the costs.

23. (D) Lack of integration between revenue department cadastral maps and master plan proposals.
A significant administrative bottleneck in implementing urban schemes in cities like Indore and Bhopal is the disconnect between spatial datasets. Revenue department cadastral maps, which define property boundaries, often lack integration with urban master plan proposals. This mismatch complicates plot reconstitution, creates legal ambiguities, and slows down the process of formalizing planned neighborhood infrastructure and land adjustments.

24. (A) Japan
Japan is widely recognized as the pioneer of the Kukaku Seiri system, a highly successful model of land readjustment. This method has influenced global urban planning practices by demonstrating how fragmented agricultural land can be systematically converted into organized urban environments. It balances the provision of public infrastructure with the rights of private landowners through a participatory and statutory framework.

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76. (A) P-4, Q-2, R-1, S-3
The JNNURM mission operated through various sub-missions targeting different urban needs. Urban Infrastructure and Governance focused on large-scale projects in mission cities. Small and medium towns were covered under the UIDSSMT. Basic Services to the Urban Poor addressed housing and slums in major cities, while the IHSDP targeted similar development goals in non-mission towns and smaller urban centers.

77. (D) Providing permanent multi-story housing on the same site with private developer participation.
In-situ slum redevelopment involves constructing permanent, improved housing for slum dwellers on the exact site they currently occupy. This approach avoids the social disruption of relocation. It typically relies on private developer participation, where the developer builds free housing for the residents and is compensated with incentive development rights to construct additional commercial or residential units for sale.

78. (B) 1, 2 and 4
Adaptive reuse involves repurposing heritage buildings for modern functions while maintaining their historical and structural integrity. This strategy is an economically viable alternative to demolition and is essential for the regeneration of historical urban cores. While preservation is key, adaptive reuse does not prohibit modern amenities; rather, it requires their sensitive integration to ensure the building remains functional and usable.

79. (B) Business Improvement District (BID)
When local business owners collaborate to fund and manage neighborhood improvements through a self-imposed tax, they are implementing a Business Improvement District. This concept allows for localized enhancements like better seating, cleaning, and marketing to revitalize the area's economic appeal. It empowers the local community to address specific needs that may not be covered by standard municipal services, ensuring a competitive retail environment.

80. (D) Dilapidated building redevelopment – Usually incentivized through additional FSI to developers to offset the cost of rehousing existing tenants.
Redeveloping dilapidated buildings in dense urban areas is often incentivized by granting developers additional Floor Space Index. This extra development potential allows developers to construct new housing for existing tenants for free while selling the remaining units for profit. This mechanism overcomes the financial hurdles of high construction costs and tenant rehousing, facilitating the modernization of aging and unsafe urban structures.

81. (A) Both A and R are true and R is the correct explanation of A.
The FSI incentive model is a cornerstone of slum redevelopment, ensuring projects are financially viable without massive direct government spending. Developers are motivated to undertake these projects because they can recover the cost of building free housing for slum dwellers by utilizing incentive development rights. This allows them to construct and sell additional apartments in the open market, generating the necessary profit.

82. (C) Implementing pedestrianization, facade restoration, and unified signage regulations while maintaining commercial activity.
Regenerating historically significant high streets requires a sensitive approach that balances preservation with economic vitality. Implementing pedestrianization and restoring building facades enhances the area's aesthetic appeal and footfall. Unified signage regulations prevent visual clutter. These interventions, while maintaining existing commercial activities, create a more attractive and sustainable urban environment without the social and cultural loss associated with total demolition or relocation.

83. (A) P-2, Q-4, R-1, S-3
Urban interventions are tailored to specific operational contexts. Brownfield redevelopment often involves repurposing disused industrial sites for new commercial uses. Slum upgrading focuses on providing basic services like water and pathways without demolition. Cluster development enables comprehensive planning by amalgamating small adjacent plots. Adaptive reuse involves changing the function of historical

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(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

20. Which of the following is NOT an obligation of a promoter under the RERA 2016 framework?
(A) Quarterly updating of project details, including approvals and completion status, on the RERA website
(B) Providing a structural defect warranty for a period of five years from the date of handing over possession
(C) Executing a registered conveyance deed in favor of the allottee along with undivided proportionate title in the common areas
(D) Guaranteeing a fixed percentage of capital appreciation on the property to the allottee

21. An allottee in a registered housing project discovers significant structural defects in their apartment three years after taking possession. Under RERA provisions, what is the most appropriate legal remedy available?
(A) The allottee must repair the defect at their own cost as the defect liability period is only one year.
(B) The promoter is legally bound to rectify the structural defect within 30 days without further charge.
(C) The allottee must surrender the flat back to the promoter at the original purchase price.
(D) The municipality becomes responsible for rectifying defects after the issuance of a completion certificate.

22. Which of the following statements regarding the registration of real estate agents under RERA is INCORRECT?
(A) No real estate agent can facilitate the sale of any real estate project without obtaining RERA registration.
(B) Agents must maintain and preserve books of accounts, records, and documents as prescribed.
(C) The registration granted to a real estate agent is valid indefinitely and does not require renewal.
(D) Agents are prohibited from facilitating the sale of unregistered projects that require RERA registration.

23. Where is the principal bench of the Madhya Pradesh Real Estate Appellate Tribunal (MP REAT) located?
(A) Indore
(B) Gwalior
(C) Jabalpur
(D) Bhopal

24. Under real estate development regulations, what does the term 'Deemed Approval' signify?
(A) Legal presumption of permission if the authority fails to decide in time
(B) Approval granted by a local authority based solely on self-certification without any scrutiny
(C) A temporary sanction given for commencement of construction before environmental clearance
(D) Retroactive approval for an unauthorized structure after paying a mandatory compounding fee

25. Consider the following statements regarding the Affordable Rental Housing Complexes (ARHC) scheme 2020:
1. It aims to provide dignified and affordable rental accommodation to urban migrants and the urban poor.
2. It operates as a sub-scheme under the Pradhan Mantri Awas Yojana - Urban (PMAY-U).
3. It relies heavily on utilizing existing vacant government-funded housing complexes.
4. It exclusively offers long-term ownership rights to migrants after a 10-year rental period.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 4

26. What was the central guiding principle and aim of the National Urban Housing and Habitat Policy (NUHHP) 2007?
(A) Complete elimination of private sector involvement in the provision of housing stock
(B) 'Affordable Housing for All' with emphasis on vulnerable sections
(C) Relocating all urban slum populations to

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rebuilding of the site according to a new plan, often resulting in significant changes to land use and density.

92. (C) Incentive zoning for brownfield redevelopment.
This scenario exemplifies incentive zoning, where the government offers higher Floor Area Ratio to owners of brownfield sites in exchange for providing public benefits. By surrendering a portion of the land for open spaces and public housing, the owner gains the right to develop the remaining area more intensely. This mechanism facilitates the regeneration of large, underutilized industrial sites while meeting broader social objectives.

93. (D) Real estate whose reuse is complicated by the potential presence of hazardous substances.
In urban planning, a brownfield site is formally defined as previously developed land where reuse is made difficult by real or perceived environmental contamination. These sites often include abandoned industrial plants, gas stations, or warehouses. Revitalizing these areas is a key strategy for sustainable urban development, as it promotes land recycling and reduces the demand for new greenfield development on the city's outskirts.

94. (C) Prioritizing sidewalks and public spaces to boost local retail economies.
High street pedestrianization involves removing or restricting vehicular traffic to create a more walk-friendly environment. The core concept is to prioritize public spaces and sidewalks, which enhances the shopping experience and increases footfall for local businesses. This strategy promotes sustainable mobility and improves the aesthetic and social quality of the street, making it a more vibrant and economically successful urban destination.

95. (B) Pilgrimage tourism and local traditional economies.
Urban regeneration projects around historic and religious precincts in Madhya Pradesh, such as the Mahakal Mahalok corridor, are primarily designed to enhance pilgrimage tourism. By upgrading infrastructure, improving connectivity, and beautifying the surroundings, these projects attract more visitors and support the local traditional economy. This holistic approach preserves cultural heritage while generating sustainable employment and growth opportunities for the resident community.

96. (D) Small and medium towns not covered under the primary mission list.
The Integrated Housing and Slum Development Programme was a sub-mission of JNNURM specifically designed for small and medium towns. It aimed to provide housing and basic infrastructure to the urban poor in settlements that were not included in the sixty-five identified mission cities. This ensured that urban development and slum improvement efforts reached smaller urban centers across the country, promoting more balanced regional growth.

97. (A) Bhu-Adhikar (MP Bhulekh)
In Madhya Pradesh, the MP Bhulekh portal serves as the primary digital platform for accessing comprehensive land records. Citizens can utilize this online system to view and download Khasra, Khatouni, and cadastral maps. This modernization of land records enhances transparency, reduces administrative delays, and provides property owners with easy access to essential information required for planning, taxation, and legal transactions.

98. (C) A is true but R is false.
Modernizing cadastral mapping through digital technology is a vital component of effective urban land management. It provides accurate spatial data for planning and reduces property disputes. However, digital land records alone cannot eliminate rural-to-urban migration. Migration is driven by complex socio-economic factors like employment opportunities and better services, which are largely independent of the technical methods used to maintain land records.

99. (A) Regularisation permanently exempts the residents from paying property taxes in the future.
Regularizing unauthorized colonies in Madhya Pradesh involves formalizing the layout and providing basic infrastructure. While this process brings colonies into the legal planning framework, it does not exempt residents from property taxes. In fact, one of the primary objectives is to include these areas in the municipal tax net. Regularisation typically requires paying

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compulsory acquisition. By invoking the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, the authority can legally acquire the land. This process ensures the owner receives fair market compensation and rehabilitation while allowing infrastructure projects to proceed.

117. (B) Purchasing and holding land for market appreciation rather than developing it.
Urban land speculation involves the practice of buying and holding land with the primary intention of profiting from future price increases. This often occurs in rapidly growing urban fringes where owners wait for infrastructure improvements to boost land values. While profitable for individuals, speculation can hinder planned development, create artificial land scarcity, and drive up property prices, making it a significant challenge for urban land management.

118. (C) Developing a mixed-use transit-oriented hub with affordable housing components.
For surplus land located in a city center, the most beneficial utilization is a mixed-use transit-oriented development. By integrating commercial spaces with affordable housing and transit facilities, the authority can maximize the social and economic value of the land. This approach promotes sustainable urban density, reduces commuting needs, and ensures that valuable public assets contribute directly to improving the city's overall livability and economic productivity.

119. (D) The State Government
Under the Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, any major modification to the finalized Master Plan must be sanctioned by the State Government. While local authorities and the Town and Country Planning Directorate carry out technical reviews and handle public objections, the final legal authority to alter the land use designated in the statutory plan remains with the state-level administration to ensure consistency.

120. (A) 1:4,000 (often represented as 16 inches = 1 mile)
Revenue maps, historically known as Sajra maps, are essential for identifying individual land parcels in India. These cadastral maps are typically maintained at a large scale of 1:4,000, which corresponds to sixteen inches equaling one mile. This level of detail allows for the precise measurement of boundaries, calculation of land area, and recording of ownership, which are critical for both taxation and urban planning.

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It begins with the submission of a formal application and justification. The proposal then undergoes technical scrutiny by the Town and Country Planning Directorate. If deemed viable, a public notice is published to invite objections and suggestions. Finally, after addressing all feedback, the state government issues a final gazette notification of the modification.

109. (D) Land bank – A financial institution that issues credit cards to farmers.
In urban planning, a land bank is not a financial institution but a mechanism for the public acquisition and holding of land for future development. Other concepts include using government land for affordable housing to reduce costs, maintaining a public land inventory for systematic asset management, and utilizing surplus land from defunct state enterprises for new infrastructure. These tools ensure that public land is used efficiently and strategically.

110. (A) 1, 2 and 4
The Digital India Land Records Modernization Programme aims to establish a transparent system of conclusive property titles. This involves computerizing registration processes and integrating them with land records to ensure consistency. A core component is the digitization of cadastral maps, providing accurate spatial data. The program focuses on clarifying surface ownership and boundaries to reduce legal disputes and facilitate more efficient land market transactions.

111. (C) Statement I is correct and Statement II is incorrect.
Establishing a land bank involves the proactive acquisition of land by the government ahead of actual demand. This strategy ensures that land is available for systematic urban expansion and public infrastructure. Contrary to being ineffective, land banks can actually help stabilize market prices by preventing artificial scarcity and providing a steady supply of planned plots for housing and development during periods of rapid growth.

112. (D) The astrological alignment of the colony's main entrance.
Regularizing an unauthorized colony depends on technical and legal factors, such as whether the land falls in environmentally sensitive zones or has disputed ownership titles. Authorities also consider the density of existing construction on the site. However, subjective factors like astrological alignment are not part of the planning criteria. The focus is on ensuring the colony meets basic infrastructure standards and complies with statutory safety and environmental regulations.

113. (B) 1999
The Urban Land (Ceiling and Regulation) Repeal Act was passed by the Parliament in 1999. This significant legislative change allowed state governments to repeal the original 1976 Act, which had hindered land supply. Madhya Pradesh subsequently adopted this repeal to facilitate a more flexible and responsive urban land market, encouraging private investment and more efficient urban development across the state's growing cities.

114. (C) Prevailing collector guideline rate of the land and the total area involved.
When regularizing an unauthorized colony, the compounding fee is calculated using an objective financial formula. This fee is fundamentally based on the total land area of the colony and the prevailing collector guideline rate, which represents the official market value of the land. This ensures that the penalty is proportional to the economic value of the development and helps recover costs for providing infrastructure.

115. (A) Providing a transparent spatial database aiding planning, taxation, and legal clarity.
The core objective of an Urban Land Information System is to create a transparent and integrated spatial database. By combining land parcel maps with ownership and land use data, ULIS supports more accurate urban planning and efficient property taxation. This digital framework provides legal clarity regarding property boundaries and rights, reducing the potential for disputes and facilitating faster administrative processes for development approvals and transactions.

116. (D) Invoking the Right to Fair Compensation in Land Acquisition Act, 2013.
If a landowner refuses to surrender a plot reserved for a vital public purpose in the Master Plan, the municipal corporation can resort to

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constitute a Town Vending Committee for this specific purpose?
(A) Madhya Pradesh Municipal Corporation Act, 1956, for general city administration
(B) National Urban Livelihood Mission Guidelines, 2013, for broad poverty reduction
(C) Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014
(D) Madhya Pradesh Town and Country Planning Act, 1973, for regional zoning control

7. Arrange the following national housing and urban policy frameworks in chronological order of their formulation:
1. National Urban Housing and Habitat Policy
2. National Housing Policy (First iteration)
3. National Urban Sanitation Policy
4. National Transit Oriented Development Policy

(A) 2, 1, 3, 4
(B) 1, 2, 4, 3
(C) 2, 3, 1, 4
(D) 3, 1, 2, 4

8. Which of the following is NOT one of the 'Five Ps' identified in the National Urban Policy Framework 2018?
(A) Privatization
(B) Productivity
(C) Planet
(D) Participation

9. The Indore BRTS corridor is witnessing densification through increased Floor Area Ratio (FAR) norms to encourage public transport ridership. This urban planning application is a direct implementation of which national policy?
(A) National Urban Livelihood Mission regarding skill development and job training
(B) National Transit Oriented Development Policy 2017
(C) National Urban Rental Housing Policy for migrant accommodation and protection
(D) National Water Policy 2012 focused on the conservation of regional water bodies

10. Which of the following statements is correct regarding the Shelter for Urban Homeless (SUH) scheme?
(A) It provides permanent freehold housing plots and land titles to all homeless individuals.
(B) It aims to provide all-weather 24x7 shelters with essential services.
(C) It mandates the construction of exactly one night shelter per 10,000 homeless population.
(D) It is an exclusionary zoning tool to move the homeless population outside municipal limits.

11. In the context of Madhya Pradesh, which nodal agency is primarily responsible for the execution and funding facilitation of major urban infrastructure projects like water supply and sewerage under national missions?
(A) Madhya Pradesh Urban Development Company (MPUDC)
(B) Madhya Pradesh Housing and Infrastructure Development Board (MPHIDB)
(C) Directorate of Town and Country Planning (TCP)
(D) Madhya Pradesh Real Estate Regulatory Authority (MP RERA)

12. In the Indian context, what does the concept of 'Inclusionary Zoning' primarily refer to?
(A) Mandating the inclusion of regional green spaces and parks within all industrial zones
(B) Allowing mixed-use commercial activities and trade in exclusively residential neighborhoods
(C) Reserving housing units for EWS and LIG groups in new developments
(D) Integrating surrounding peri-urban villages into the existing municipal corporation limits

13. Consider the following statements regarding the Real Estate (Regulation and Development) Act (RERA) 2016:
1. A real estate project must be registered if the land area exceeds 500 square meters or the number of apartments exceeds eight.
2. Promoters are required to deposit 70% of the amounts realized from allottees in a separate escrow account.
3. Real estate agents are exempt from registration under RERA.
4. RERA provisions apply exclusively to

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CHAPTER 23
National Policies and Urban Missions

1. Consider the following statements regarding the National Urban Policy Framework (NUPF) 2018:
1. It is anchored on the 'Five Ps': Productivity, People, Prosperity, Planet, and Participation.
2. It serves as an overarching urban transformation agenda for India's urban future.
3. It completely repeals and replaces the 74th Constitutional Amendment Act provisions.
4. It emphasizes the integration of spatial planning with national economic development goals.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1 and 3 only
(D) 1, 2, 3, and 4

2. The National Urban Transport Policy (NUTP) was originally formulated in which year before being slated for review and update under recent urban frameworks?
(A) 2002
(B) 2006
(C) 2012
(D) 2014

3. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): The Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM) focuses exclusively on providing free housing allotments to the urban poor.
Reason (R): The primary objective of DAY-NULM is urban poverty reduction through skill development, microcredit, and self-employment opportunities.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

4. Which of the following pairs regarding national urban policies and their core focus is INCORRECTLY matched?
(A) National Urban Sanitation Policy 2008 – Open Defecation Free cities
(B) National Transit Oriented Development Policy 2017 – Compact, mixed-use development
(C) National Urban Rental Housing Policy – Addressing housing shortages for migrants
(D) National Water Policy 2012 – Urban property tax assessment

5. Match List-I with List-II and select the correct answer using the codes given below:
List I: (Policy/Act)
P. Street Vendors Act 2014
Q. National Urban Sanitation Policy 2008
R. National Urban Livelihood Mission
S. National Transit Oriented Development Policy 2017
List II: (Key Provision)
1. Self-employment and skill training
2. Protection of livelihood and regulation of street vending
3. Densification along mass transit corridors
4. City-wide sanitation planning and 100% safe waste disposal
(A) P-2, Q-4, R-1, S-3
(B) P-1, Q-3, R-2, S-4
(C) P-2, Q-1, R-4, S-3
(D) P-4, Q-2, R-1, S-3

6. The Bhopal Municipal Corporation is formulating a plan to integrate informal commercial activities into the urban fabric without disrupting pedestrian movement. Which legislation legally binds the local authority to

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development charges and transferring land for public utilities to the authority.

100. (A) P-2, Q-1, R-4, S-3
Land management involves various tools with distinct objectives. The DILRMP aims to modernize and computerize land records and spatial data. The land bank concept is used to acquire and hold land for future planned development. The repealed Urban Land Ceiling Act was intended to prevent land concentration and speculation. Finally, land use change permissions regulate the formal conversion of agricultural land to urban uses.

101. (B) GIS-based database integrating spatial land parcels with ownership and land use data.
An Urban Land Information System is a sophisticated digital tool used for modern city management. It utilizes Geographic Information System technology to integrate spatial data about land parcels with non-spatial information such as ownership, valuation, and designated land use. This integrated database provides a transparent and accessible foundation for urban planning, property taxation, and the effective management of public and private land assets.

102. (B) 1, 2 and 4
The process for changing land use allows for legal modifications to the statutory Master Plan. It involves a transparent procedure where applications undergo technical scrutiny by the Town and Country Planning Directorate. Public notices are issued to invite suggestions and objections, ensuring community participation. Additionally, the state government typically levies a conversion charge or premium for granting permission to alter the designated land use.

103. (D) Denial of building permission followed by land acquisition or granting of TDR.
When a plot is reserved for a public purpose like a park in the Master Plan, the owner's right to develop it commercially is restricted. Building permission for non-conforming uses is denied. To enforce the reservation, the authority must eventually acquire the land using statutory powers or offer non-monetary compensation, such as Transferable Development Rights, to offset the loss of private development potential.

104. (A) Khasra – recording details of land ownership, area, and crop details.
In Indian land management, the Khasra is a fundamental document that records essential details about a land parcel, including its ownership, total area, and current crop usage. Cadastral maps show property boundaries rather than climatic variations. DILRMP aims to modernize and streamline records rather than increase paperwork. Land titling is a process designed to clarify and guarantee property ownership rights rather than clouding them.

105. (A) Both A and R are true and R is the correct explanation of A.
The Urban Land Ceiling and Regulation Act was repealed because it largely failed to achieve its objectives. Instead of redistributing significant surplus land for the urban poor, the Act led to lengthy legal disputes and reduced the overall supply of land. This artificial scarcity fueled speculation and contributed to rising real estate prices, prompting the government to move toward more flexible land management strategies.

106. (B) Imposing a heavy Vacant Land Tax or idle land tax.
To control urban land speculation and discourage the hoarding of vacant plots, authorities can impose a Vacant Land Tax. This annual levy increases the cost of holding undeveloped land, incentivizing owners to either develop their plots or sell them to those who will. This promotes a more efficient and responsive land market, ensuring that urban land is utilized productively to meet housing and infrastructure needs.

107. (A) P-3, Q-2, R-4, S-1
Public land inventories categorize assets based on their use and ownership. Institutional land includes campuses for government hospitals and universities. Utility and infrastructure land is reserved for facilities like water treatment plants. Recreational spaces consist of public parks and maidans. Finally, Nazul or revenue land refers to government-owned vacant parcels that originally belonged to the state and are managed for various public purposes.

108. (A) 2, 4, 3, 1
Processing a major Land Use Change request follows a structured administrative sequence.

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residential projects, entirely excluding commercial real estate.

Which of the statements given above are correct?

(A) 1 and 2 only
(B) 2 and 3 only
(C) 1, 2, and 4
(D) 1 and 4 only

14. According to RERA 2016, how is 'Carpet Area' formally defined for disclosure to homebuyers?

(A) The total built-up area including all external walls, balconies, and internal walls
(B) The super built-up area including a proportionate share of lobbies and common staircases
(C) Net usable floor area excluding external walls, shafts, and balconies
(D) The gross floor area minus the area occupied by specifically the internal partition walls

15. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:

Assertion (A): Under RERA 2016, a promoter is legally mandated to deposit 70% of the funds collected from homebuyers into a separate bank account.

Reason (R): This provision ensures that funds collected for a specific project are utilized solely for land cost and construction of that project, preventing the diversion of funds.

(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

16. Which of the following pairs regarding the institutional framework of RERA is correctly matched?

(A) Real Estate Regulatory Authority – Adjudication of structural defect compensations only
(B) Real Estate Appellate Tribunal – First point of project registration for promoters
(C) Escrow Account – Managed by the local municipal corporation for infrastructure charges
(D) Central Advisory Council – Advise the Central Government on the implementation of RERA

17. Match List-I with List-II and select the correct answer using the codes given below:

List I: (RERA Feature)

P. Deemed Registration
Q. Promoter
R. Allottee
S. Real Estate Agent

List II: (Description)

1. Any person who facilitates the sale or purchase of real estate for remuneration
2. The person who constructs or causes to be constructed an independent building or apartment
3. Automatic approval if the Authority fails to grant or reject registration within 30 days
4. The person to whom a plot, apartment, or building has been allotted or sold

(A) P-3, Q-2, R-4, S-1
(B) P-2, Q-3, R-1, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-3, Q-4, R-2, S-1

18. A promoter applied for project registration under MP RERA, submitting all required documents and fees. 35 days have passed, and the Authority has neither granted nor explicitly rejected the registration. What is the legal status of the project application under RERA rules?

(A) The application is considered lapsed, and the promoter must reapply with double fees.
(B) The promoter must halt all advertising until explicit written approval is dispatched.
(C) The project obtains deemed registration, necessitating the issuance of a number.
(D) The project is automatically transferred to the Real Estate Appellate Tribunal for review.

19. Examine the following statements and select the correct answer from the options given below:

Statement I: Any aggrieved allottee can file a complaint with the MP Real Estate Regulatory Authority against a registered promoter for violations of the Act.

Statement II: Decisions of the MP Real Estate Regulatory Authority are final and cannot be appealed in any other tribunal or court.

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structures, such as converting a palace into a heritage hotel.

84. (A) 2, 3, 4, 1
India's urban development programs have evolved through various national missions. The process began with the Mega City Scheme, followed by the landmark Jawaharlal Nehru National Urban Renewal Mission. Subsequently, the Rajiv Awas Yojana was launched to address housing for the urban poor. The most recent significant addition is the Atal Mission for Rejuvenation and Urban Transformation, which focuses on core infrastructure in numerous cities.

85. (B) Urban Revitalization – Purely focuses on ecological restoration of natural wetlands without addressing socio-economic decline.
Urban revitalization is a broad strategy aimed at reversing the physical, social, and economic decline of an area. It is not limited to ecological restoration. Other typologies include urban redevelopment, which involves structure clearance and rebuilding; conservation, which protects historically significant environments; and rehabilitation, which focuses on repairing and modifying existing structures to a usable condition while preserving their original character.

86. (B) 1, 3 and 4
The BSUP sub-mission under JNNURM focused on providing housing and basic services to slum dwellers in mission cities. Security of tenure was a fundamental goal. While the program required state-level reforms like repealing the Urban Land Ceiling Act, it did not completely waive beneficiary contributions. Most housing projects required a small financial contribution from the urban poor to ensure ownership and project sustainability.

87. (A) Statement I is correct and Statement II is correct.
Redeveloping dilapidated buildings is often complicated by long-term tenants protected under outdated rent control laws. This makes individual building redevelopment economically unviable. Cluster development policies address this by incentivizing the amalgamation of multiple small plots into a larger project. This approach allows for comprehensive planning and provides developers with enough Floor Space Index to house existing tenants while achieving financial viability.

88. (A) Availability of massive tracts of vacant greenfield land within the inner city.
Implementing cluster development in dense inner cities faces several hurdles, such as fragmented ownership and the difficulty of obtaining 100% consent from all stakeholders. Inadequate existing infrastructure also limits potential density. However, the availability of large greenfield tracts is not a constraint, as these projects specifically target already built-up and dilapidated urban areas rather than vacant land on the city fringes.

89. (B) Through a mandatory assessment collected from property owners within the district.
Under the Business Improvement District model, localized enhancements are funded through a mandatory assessment or surcharge collected from property owners and businesses within that specific area. This ensures that the costs of improvements like street cleaning, security, and marketing are borne by those who directly benefit from them. The collected funds are managed locally to address the district's unique priorities.

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90. (A) Execute an adaptive reuse project to convert the warehouse into a shopping arcade.
Repurposing a robust 19th-century warehouse through adaptive reuse is a sustainable and economically viable strategy. This approach preserves the unique architectural heritage while allowing for modern commercial use, such as a shopping arcade. It revitalizes the surrounding area and makes productive use of centrally located urban land without the high costs and environmental impact associated with demolition and new construction.

91. (A) Renewal is a broad process including conservation, whereas redevelopment is demolition.
Urban renewal is an overarching concept that encompasses various strategies to improve urban areas, including conservation, rehabilitation, and redevelopment. In contrast, urban redevelopment is a more specific and radical intervention. It typically involves the clearance of existing dilapidated structures and the comprehensive

the rural peripheries of metropolitan cities
(D) Mandating state governments to provide free housing units to all citizens regardless of income

27. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): The PM SVANidhi scheme plays a crucial role in the urban poverty reduction policy framework by providing microcredit to street vendors.
Reason (R): Microcredit allows street vendors to resume livelihoods adversely affected by the COVID-19 pandemic and integrates them into the formal urban economy.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

28. Which of the following pairs regarding urban development initiatives and their target scope is INCORRECTLY matched?
(A) ARHC Scheme 2020 – Urban migrants and industrial workers
(B) PM SVANidhi – Street vendors and hawkers
(C) AMRUT 1.0 – Rural housing electrification
(D) SUH Scheme – Urban homeless population

29. Match List-I with List-II and select the correct answer using the codes given below:
List I: (Housing Concepts/Policies)
P. Inclusionary Zoning
Q. Co-living Housing Policy
R. Night Shelter Policy
S. Hawker Zone Policy
List II: (Key Focus)
1. Shared amenities with private living spaces for transient urban populations
2. Dedicated spatial areas to protect livelihood while ensuring pedestrian flow
3. Mandated percentage of EWS/LIG units in private layouts
4. Basic overnight stay facilities for the destitute urban population
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-1, R-4, S-3

30. The Ujjain Municipal Corporation identifies an open plot near the Mahakal corridor to designate as a 'Hawker Zone' to relieve street congestion. To ensure compliance with national livelihood policies, which specific aspect must be surveyed and accommodated before formalizing the zone?
(A) The proximity of the zone to large-scale heavy industrial units and factories
(B) The feasibility of constructing multi-story commercial malls on the identified site
(C) The capacity of the zone versus the count of registered street vendors
(D) The historical heritage designation of individual vending carts and units

31. Arrange the launch years of the following urban missions/policies in chronological order:
1. AMRUT 1.0
2. Real Estate (Regulation and Development) Act enactment
3. Affordable Rental Housing Complexes (ARHC) scheme
4. National Urban Livelihoods Mission (NULM)
(A) 4, 1, 2, 3
(B) 1, 4, 2, 3
(C) 4, 2, 1, 3
(D) 2, 4, 1, 3

32. The Affordable Rental Housing Complexes (ARHC) scheme is primarily targeted at urban migrants. Which of the following groups is NOT listed as a targeted beneficiary under this scheme?
(A) Industrial workers
(B) Construction site laborers
(C) Market and trade association workers
(D) High-net-worth foreign expatriates

33. A private developer in Madhya Pradesh is planning a large residential township spanning 20 hectares. Under the inclusive housing guidelines adopted through state planning norms, what specific regulatory requirement must the developer fulfill regarding social equity?

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(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

76. Which of the following pairs differentiating AMRUT 1.0 and AMRUT 2.0 is INCORRECTLY matched?
(A) AMRUT 1.0 target cities – 500 cities
(B) AMRUT 2.0 water supply target – 4,800 statutory towns
(C) AMRUT 1.0 primary thrust – Smart city command centers
(D) AMRUT 2.0 primary thrust – Water security and circular economy

77. Match List-I with List-II and select the correct answer using the codes given below:
List I: (Urban Mission/Scheme)
P. PM SVANidhi
Q. DAY-NULM
R. ARHC
S. AMRUT
List II: (Core Beneficiary/Focus)
1. Urban migrants needing affordable rent
2. Street vendors needing microcredit
3. Urban poor needing skill development and SHG formation
4. Citizens needing basic water and sewerage infrastructure
(A) P-2, Q-3, R-1, S-4
(B) P-3, Q-2, R-4, S-1
(C) P-2, Q-1, R-3, S-4
(D) P-1, Q-2, R-3, S-4

78. A private developer in Bhopal proposes a 50-acre plotted residential layout. According to Madhya Pradesh's inclusive housing provisions, the developer must allocate a specific percentage of land for EWS/LIG housing. If the developer opts not to provide this land within the same layout, what alternative is generally permissible under state planning rules?
(A) Handing over commercial shops of equivalent value
(B) Securing an exemption certificate from the Chief Minister's Office
(C) Paying a compensatory 'shelter fee' to the municipal corporation or state nodal agency
(D) Funding a rural infrastructure project in a neighboring district

79. Arrange the following National Housing Policies in chronological order of their formulation:
1. National Housing Policy (Recognizing housing as an industry)
2. National Housing Policy (First articulation focusing on eradicating houselessness)
3. National Urban Housing and Habitat Policy (Focus on affordable housing for all)
(A) 2, 1, 3
(B) 1, 2, 3
(C) 3, 1, 2
(D) 2, 3, 1

80. Which of the following is NOT an intended reform or outcome under the AMRUT 2.0 mission framework?
(A) Rejuvenation of urban water bodies
(B) Reduction of Non-Revenue Water (NRW)
(C) Property tax reforms to improve municipal finance
(D) Complete privatization of urban local bodies

81. An Urban Local Body is instructed to prepare a 'Water Security City Plan'. Under the AMRUT 2.0 guidelines, which core competency is essential for drafting this plan?
(A) Water balance assessment and wastewater reuse planning
(B) Designing intricate architectural facades for new municipal headquarters enclaves
(C) Mapping vehicular traffic flow for comprehensive public transport optimization
(D) Drafting bylaws for regional heritage conservation

82. Which of the following statements is correct regarding the norms for the 'Shelter for Urban Homeless' (SUH) scheme under NULM?
(A) Shelters must provide a minimum space of 50 square meters per homeless individual.
(B) Shelters should cater exclusively to male populations; females must be accommodated in rural areas.
(C) The scheme recommends providing a minimum space of 50 square feet (approx. 4.64 sq. m) per person.
(D) Operations of the shelters must be strictly

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40. Which of the following pairs correctly matches an AMRUT mission component with its intended outcome?
(A) Green spaces and parks – Enhancement of urban amenity value and child-friendly spaces
(B) Storm water drainage – Eradication of open defecation
(C) Non-Motorized Transport (NMT) – Construction of multi-level car parking and flyovers
(D) Septage management – Provision of piped cooking gas to urban households

41. Match List-I with List-II and select the correct answer using the codes given below:
List I: (AMRUT Terminology)
P. SLIP
Q. SAAP
R. PDMC
S. NMT
List II: (Description)
1. State Annual Action Plan
2. Project Development and Management Consultant
3. Service Level Improvement Plan
4. Non-Motorized Transport
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-3, R-4, S-2
(C) P-3, Q-1, R-4, S-2
(D) P-2, Q-4, R-1, S-3

42. The Jabalpur Municipal Corporation is undertaking the restoration of the historic Robertson Lake, ensuring zero discharge of untreated sewage into it and developing public spaces around it. This intervention falls directly under which newly emphasized component of AMRUT 2.0?
(A) Metro Rail Expansion
(B) Water Body Rejuvenation
(C) Thermal Power Generation
(D) Highway Landscaping

43. Examine the following statements and select the correct answer from the options given below:
Statement I: AMRUT 2.0 mandates universal coverage of sewerage and septage management in all 4,800 statutory towns in India.
Statement II: Universal coverage of sewerage and septage management under AMRUT 2.0 is specifically targeted only at the 500 AMRUT cities.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

44. Which of the following was NOT an explicit focus area under the original AMRUT 1.0 guidelines?
(A) Augmentation of water supply
(B) Expansion of sewerage and septage management
(C) Construction of affordable housing complexes
(D) Development of green spaces and parks

45. An Assistant Town Planner is tasked with improving the institutional efficiency of a municipal corporation under the AMRUT mission. Which specific component of the mission provides funding for training municipal cadre, implementing e-governance, and conducting administrative reforms?
(A) Service Level Benchmarking for assessment
(B) Project Implementation Unit Funding support
(C) Water Security Planning for city resilience
(D) Capacity Building and Reform Implementation

46. Which of the following statements INCORRECTLY describes the shortfalls or outcomes of AMRUT 1.0, prompting the transition to AMRUT 2.0?
(A) While water supply improved, achieving 100% universal coverage of household tap connections remained incomplete across all statutory towns.
(B) Sewerage network expansion proved highly capital intensive and faced implementation delays in tier-2 cities.
(C) The focus on non-motorized transport successfully eliminated all vehicular traffic in the 500 cities.
(D) Storm water drainage projects often suffered from poor integration with city-wide master plans.

47. In Madhya Pradesh, roughly how many cities were initially selected under the AMRUT

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1.0 mission for infrastructure upgrade interventions?
(A) 12
(B) 34
(C) 52
(D) 105

48. What does the term 'Pey Jal Survekshan' refer to in the context of the AMRUT 2.0 mission?
(A) A financial audit mechanism for monitoring water treatment plant construction
(B) A surveillance survey tracking the seasonal spread of water-borne diseases
(C) A regulatory framework penalizing illegal ground water extraction in cities
(D) Assessment of water distribution, reuse, and mapping in cities

49. Consider the following statements regarding the National Geospatial Policy (NGP) 2022:
1. It completely replaces the restricted National Map Policy of 2005.
2. It liberalizes the collection, generation, and dissemination of geospatial data for Indian private entities.
3. It places strict new licensing requirements and prior approvals on Indian startups for digital mapping.
4. It aims to develop a high-resolution National Topographic Database.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1 and 3 only
(D) 1, 2, 3, and 4

50. The National Geospatial Policy 2022 marks a paradigm shift from a highly restricted framework to a liberalized one by replacing which previous map policy?
(A) National Mapping Act 1985
(B) Survey of India Regulation 1999
(C) National Map Policy 2005
(D) Geospatial Information Policy 2012

51. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): Under the National Geospatial Policy 2022, foreign companies and foreign-owned entities have unrestricted access to create and own high-resolution topographic data of India.
Reason (R): The policy aims to attract Foreign Direct Investment (FDI) in the geospatial surveying sector to boost technological advancement.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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52. Which of the following pairs regarding the National Geospatial Policy framework is INCORRECTLY matched?
(A) Survey of India – Principal mapping agency of the country
(B) Bhuvan – ISRO's national geospatial portal
(C) NGDF – National Geospatial Data Framework
(D) Metadata – The actual satellite image pixel data

53. Match List-I with List-II and select the correct answer using the codes given below:
List I: (Geospatial Concept/Initiative)
P. Bhuvan
Q. NGIS
R. Liberalization of Geospatial Data
S. NGDF
List II: (Description)
1. National Geographic Information System initiative
2. ISRO's platform for visualization of satellite imagery and maps
3. Framework standardizing geospatial data sharing and interoperability
4. Removal of prior approval requirements for surveying by Indian entities
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-4, R-1, S-3

54. The Gwalior Municipal Corporation decides to update its property tax register using high-resolution drone imagery and GIS mapping without seeking prior security clearance

from the Ministry of Defence. Is this action permissible, and under which framework?
(A) No, drone mapping by municipal bodies strictly requires Ministry of Defence clearance under all circumstances.
(B) Yes, but only if the collected data is sent to foreign servers for technical processing.
(C) Yes, under NGP 2022 liberalized provisions for Indian entities.
(D) No, the National Map Policy 2005 still restricts all drone usage for municipal areas.

55. Arrange the following geospatial frameworks and policies in chronological order of their introduction:
1. National Map Policy
2. Remote Sensing Data Policy
3. National Geospatial Guidelines (Liberalization)
4. National Geospatial Policy
(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 3, 1, 4, 2

56. The National Geospatial Data Framework (NGDF) establishes standards to ensure data interoperability. Which of the following is NOT typically a component regulated by such geospatial standards?
(A) Financial pricing of physical land parcels
(B) Spatial referencing systems (Datums and Projections)
(C) Data quality and metadata formats
(D) Geodatabase schemas and feature classification

57. A private urban planning firm in Madhya Pradesh is contracted to prepare a base map for a new township. Under the NGP 2022, what must the firm ensure regarding the generation of geospatial data?
(A) It must obtain a formal license from the Survey of India before deploying surveyors.
(B) It can freely map using terrestrial and aerial methods as an Indian entity.
(C) It must hand over all raw data exclusively to the state government without retaining any copies.
(D) It is prohibited from using GPS technology with horizontal accuracy better than 10 meters.

58. Which of the following statements correctly highlights the economic opportunity envisioned by the National Geospatial Policy 2022?
(A) It restricts geospatial applications strictly to military and defense sectors to safeguard economic assets.
(B) It seeks to promote geospatial innovation, startups, and private enterprise to boost the digital economy and create employment.
(C) It aims to eliminate private sector involvement to make mapping a pure public monopoly.
(D) It focuses on levying heavy taxes on satellite imagery consumption to generate government revenue.

59. Which designated agency in Madhya Pradesh plays a pivotal role in implementing state geospatial policies, managing spatial data infrastructure, and executing IT/GIS projects across departments?
(A) Madhya Pradesh Agency for Promotion of Information Technology (MAP_IT)
(B) Environmental Planning & Coordination Organisation (EPCO)
(C) Madhya Pradesh State Industrial Development Corporation (MPSIDC)
(D) Directorate of Economics and Statistics (DES)

60. In the context of geospatial data standards, how is 'Metadata' best defined?
(A) The vector data representing road centerlines in a city
(B) The raw uncorrected satellite imagery obtained directly from sensors
(C) Data providing info on other data's source, accuracy, and system.
(D) A physical topographic map printed on paper or drafting film

61. Consider the following statements regarding the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act 2014:
1. It mandates the constitution of a Town Vending Committee (TVC) in every local authority.
2. It completely bans street vending in all metropolitan cities to ensure traffic flow.

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90. The Town and Country Planning (TCP) Department of Madhya Pradesh is developing a regional spatial plan for the Narmada River basin encompassing multiple districts. Which specific policy empowers the TCP to easily acquire high-accuracy topographic data from private mapping agencies without procedural delays?
(A) National Water Policy 2012
(B) National Geospatial Policy 2022
(C) Environmental Protection Act 1986
(D) AMRUT Guidelines

91. Examine the following statements and select the correct answer from the options given below:
Statement I: NGIS aims to provide a standardized, seamless, and integrated GIS platform for the entire country to support e-governance.
Statement II: NGIS data is stored in decentralized, non-standardized formats across various municipal hard drives.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

92. Under the National Geospatial Policy 2022, foreign companies and foreign-owned entities face certain restrictions. Which of the following is an accurate restriction placed on them?
(A) They are prohibited from viewing any map of India on the internet for civilian purposes.
(B) They cannot create or own horizontal geospatial data finer than 1 meter.
(C) They are banned from offering cab-hailing apps using GPS tracking and mobile mapping tools.
(D) They must pay a royalty to the Survey of India for every regional map printed abroad.

93. A municipal corporation aims to increase its property tax base without physically surveying every house. How can modern geospatial policies specifically facilitate this?
(A) By generating random tax bills using algorithms focused on neighborhood income levels
(B) By monitoring the daily movement of citizens using satellite surveillance technology tools
(C) By transferring the tax collection authority entirely to the Survey of India department
(D) By using drone imagery overlaid with utility data to identify unassessed areas

94. Which of the following statements is INCORRECT regarding the National Urban Rental Housing Policy framework?
(A) It acknowledges that ownership housing is unaffordable for a large segment of the urban poor and migrants.
(B) It promotes the creation of formal rental housing stock through public-private partnerships.
(C) It explicitly mandates the abolition of the Rent Control Acts in all states to protect tenants indefinitely.
(D) It encourages institutional investment in the rental housing sector.

95. The Directorate of Town and Country Planning (TCP), Madhya Pradesh, operates an online portal to facilitate citizens and developers in identifying land use zones and master plan road alignments. This is a practical implementation of:
(A) Real Estate Appellate Tribunal mandates
(B) State geospatial framework and e-governance integration
(C) PM SVANidhi distribution tracking
(D) AMRUT capacity building

96. What is the core objective of the Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)?
(A) To provide free food grains and basic nutritional support to all urban BPL families
(B) To provide smart smartphones to urban youth for the purpose of enhancing digital literacy
(C) To eradicate all slums and relocate residents to rural areas outside metropolitan limits
(D) To reduce urban poverty by enabling access to self-employment and skilled wage jobs

97. Consider the following statements regarding the Real Estate Appellate Tribunal under RERA:
1. It is constituted by the appropriate Government to hear appeals from the decisions of the Real Estate Regulatory Authority.
2. Any person aggrieved by a decision of the

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plans and layout plans
(B) To know the stage-wise time schedule of completion of the project
(C) To claim refund of amount paid along with interest if the promoter fails to hand over possession on time
(D) To unilaterally alter the approved architectural design of the building exterior

69. An urban planner suggests modifying the master plan to allow higher floor space index (FSI) and mixed-use commercial zoning specifically within a 500-meter radius of the proposed Bhopal Metro stations. This planning strategy is an application of which policy?
(A) National Urban Livelihood Mission
(B) National Transit Oriented Development (TOD) Policy
(C) Inclusionary Zoning Concept
(D) Affordable Rental Housing Complexes scheme

70. Which of the following statements INCORRECTLY describes a component of the Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)?
(A) Employment through Skill Training and Placement (EST&P)
(B) Social Mobilization and Institution Development (SM&ID)
(C) Universal Basic Income (UBI) provision of a fixed monthly salary to all urban residents
(D) Self-Employment Programme (SEP) providing financial assistance to individuals/ groups

71. Under the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh, what is the primary mode of financial assistance provided to Urban Local Bodies (ULBs)?
(A) 100% upfront foreign direct investment grants for project development
(B) Direct cash transfers to citizens for individual house construction enclaves
(C) Conversion of all municipal lands into commercial real estate for revenue
(D) Margin money and interest subsidies for infrastructure loans

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72. According to RERA 2016 disclosures, how should the area of 'internal partition walls' of an apartment be treated when calculating the 'Carpet Area'?
(A) It is included in the carpet area calculation.
(B) It is excluded from the carpet area calculation.
(C) It is charged separately as super built-up area.
(D) It is considered part of the common area.

73. Consider the following statements regarding the objectives of AMRUT 2.0:
1. It aims to provide universal coverage of water supply through functional taps to all households in all statutory towns.
2. It aims to provide coverage of sewerage/ septage management in 500 AMRUT cities.
3. It promotes the concept of a Circular Economy of water through recycling of treated sewage.
4. It entirely delegates the funding mechanism to international donor agencies like the World Bank.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1 and 4 only
(D) 1, 2, 3, and 4

74. What is the initial working capital loan amount provided to street vendors under the PM SVANidhi microcredit scheme?
(A) Up to ₹5,000
(B) Up to ₹10,000
(C) Up to ₹25,000
(D) Up to ₹50,000

75. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): The Affordable Rental Housing Complexes (ARHC) scheme was formulated in 2020 primarily in response to the COVID-19 pandemic.
Reason (R): The reverse migration of urban workers highlighted the severe lack of dignified and affordable rental housing near their workplaces.

3. It requires local authorities to formulate a street vending plan every five years.
4. It stipulates that street vendors cannot be evicted until the survey is complete and certificates of vending are issued.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2 and 3 only
(D) 1 and 4 only

62. Under RERA 2016, a real estate project is exempt from mandatory registration if the area of land proposed to be developed does not exceed what threshold?
(A) 250 square meters
(B) 500 square meters
(C) 1,000 square meters
(D) 2,000 square meters

63. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): Inclusionary zoning policies mandate private developers to reserve a portion of housing units for EWS/LIG categories.
Reason (R): The objective is to promote socially inclusive neighborhoods and leverage private capital to bridge the affordable housing deficit.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

64. Which of the following pairs regarding penalties under RERA 2016 is INCORRECTLY matched?
(A) Real estate agent functioning without registration – Penalty of Rs 1 lakh per day without any upper limit
(B) Allottee failing to comply with Appellate Tribunal orders – Mandatory life imprisonment
(C) Promoter providing false information – Forfeiture of all project land to the State Government
(D) Promoter failing to register a project – Penalty up to 10% of the estimated cost of the real estate project

65. Match List-I with List-II and select the correct answer using the codes given below:
List I: (RERA Terminology)
P. Common Areas
Q. Escrow Account
R. Carpet Area
S. Completion Certificate
List II: (Definition/Provision)
1. Account holding 70% of buyer funds
2. Usable floor area excluding external walls
3. Parks, staircases, lifts, and community centers within the project
4. Document certifying project is developed according to sanctioned plan
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-2, R-1, S-4
(D) P-2, Q-1, R-4, S-3

66. The Indore Municipal Corporation achieved significant milestones in city sanitation, partly inspired by frameworks laid out earlier. Which national policy first conceptualized the idea of generating "City Sanitation Plans" leading towards open-defecation-free status?
(A) AMRUT Mission Guidelines 2015
(B) Swachh Bharat Mission (Urban) 2.0
(C) National Urban Sanitation Policy (NUSP) 2008
(D) National Water Policy 2012

67. Regarding the National Water Policy 2012, examine the following statements and select the correct answer from the options given below:
Statement I: It recommends that urban water supply pricing should completely subsidize industrial usage.
Statement II: It emphasizes the recycling and reuse of treated urban wastewater for non-potable purposes.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

68. Under the RERA framework, which of the following is NOT a defined right of an allottee (homebuyer)?
(A) To obtain information relating to sanctioned

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managed by the police department.

83. The city of Ujjain frequently leverages funding from multiple national missions to overhaul its infrastructure, notably around the Mahakal corridor. The convergence of water supply networks and intelligent SCADA systems is an example of synergy between which two major urban missions?
(A) Smart Cities Mission and AMRUT
(B) HRIDAY and PM Awas Yojana
(C) Swachh Bharat Mission and NULM
(D) PM SVANidhi and National Health Mission

84. In the context of the AMRUT mission, what is a Service Level Improvement Plan (SLIP)?
(A) A master plan for expanding city limits for future metropolitan growth enclaves
(B) A performance appraisal report for municipal engineers regarding project speed
(C) A financial statement submitted for national tax audits and fiscal clearances
(D) A document assessing infrastructure gaps and proposing project benchmarks

85. Consider the following statements regarding the pillars of the National Geospatial Policy 2022:
1. It focuses on the creation of a National Geospatial Data Registry.
2. It mandates the establishment of an Integrated Data and Information Framework.
3. It aims to completely ban open-source GIS software in government departments.
4. It supports capacity building and skill development in geospatial science.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2 and 3 only
(D) 1, 2, 3, and 4

86. Which premier scientific organization is the developer and host of the 'Bhuvan' national geospatial portal?
(A) National Informatics Centre (NIC)
(B) Survey of India (SoI)
(C) Indian Space Research Organisation (ISRO)
(D) Defence Research and Development Organisation (DRDO)

87. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): The liberalization of geospatial data under NGP 2022 allows Indian private entities to collect and share spatial data without seeking prior approvals.
Reason (R): The policy recognizes that geospatial data is a crucial driver for economic growth, digital inclusion, and ease of doing business.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

88. Which of the following pairs matching a geospatial application with its urban planning use case is correctly matched?
(A) Land Use Land Cover (LULC) mapping – Identifying temporal changes in urban sprawl
(B) Digital Elevation Model (DEM) – Mapping demographic profiles of slums
(C) Network Analysis – Estimating air pollution concentrations
(D) Cadastral Mapping – Monitoring real-time traffic congestion

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89. Match List-I with List-II and select the correct answer using the codes given below:
List I: (Urban Mission/Policy)
P. National Urban Livelihood Mission
Q. National Geospatial Policy 2022
R. RERA 2016
S. National Water Policy 2012
List II: (Nodal Ministry/Department)
1. Ministry of Jal Shakti
2. Ministry of Housing and Urban Affairs (MoHUA)
3. Department of Science and Technology (DST)
4. MoHUA (Legislative mandate implementation)
(A) P-2, Q-3, R-4, S-1
(B) P-4, Q-1, R-2, S-3
(C) P-2, Q-4, R-3, S-1
(D) P-3, Q-2, R-1, S-4

(A) Reserve a percentage of plots or units for EWS and LIG groups
(B) Surrender 50% of the developed land to the local authority free of cost for public utility
(C) Build a separate township for industrial workers at a distant location from the main project
(D) Ensure all housing units are priced uniformly across the project irrespective of their size

34. Which of the following statements is correct regarding housing policies for specialized government personnel (police, defence, government employees)?
(A) They are completely managed and funded by private real estate developers under RERA registration norms.
(B) These housing enclaves are exempt from local building byelaws and all environmental clearances.
(C) They aim to provide dedicated, secure, and subsidized rental or ownership housing.
(D) They explicitly restrict the provision of any social infrastructure like schools or hospitals within enclaves.

35. In the context of Madhya Pradesh, which statutory body functions as the premier agency for the construction and provision of affordable housing, including EWS and LIG units, across the state?
(A) Madhya Pradesh Housing and Infrastructure Development Board (MPHIDB)
(B) Madhya Pradesh Road Development Corporation (MPRDC)
(C) Directorate of Urban Administration and Development (UAD)
(D) State Agency for Public Services (SAPS)

36. What is the most appropriate driver behind the recent emergence and policy support for 'Co-living and dormitory housing' in major Indian urban centers?
(A) The need to permanently settle rural populations in urban industrial zones for low-cost labor
(B) The government's mandate to replace all traditional family housing with shared accommodation
(C) The failure of the RERA framework to regulate standard apartment construction and delivery
(D) The demand for flexible and affordable rental housing by young professionals

37. Consider the following statements regarding the AMRUT 1.0 mission:
1. It was launched in 2015 with a focus on 500 cities.
2. Its five focus areas include water supply, sewerage, storm water drainage, urban transport (NMT), and green spaces/parks.
3. The mission bypasses state governments by funding city municipal corporations directly from the center.
4. It introduced the formulation of State Annual Action Plans (SAAP) to ensure cooperative federalism.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1 and 3 only
(D) 1, 2, 3, and 4

38. AMRUT 2.0, launched in 2021, expanded its objectives to cover how many statutory towns for achieving universal coverage of water supply?
(A) 500
(B) 1,000
(C) 4,800
(D) 6,500

39. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): Under AMRUT, the State Annual Action Plan (SAAP) is an aggregated plan prepared by the State Government.
Reason (R): SAAP is formulated by consolidating the Service Level Improvement Plans (SLIP) prepared by individual Urban Local Bodies (ULBs).
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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Authority or an adjudicating officer may file an appeal before the Tribunal.
3. The Tribunal is bound by the strict procedural rules of the Code of Civil Procedure, 1908, and cannot be guided by principles of natural justice.
4. Appeals to the Tribunal must generally be filed within 60 days of the receipt of the Authority's order.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 2, and 3
(C) 2, 3, and 4
(D) 1 and 4 only

98. According to RERA 2016, what percentage of the amount realized for the real estate project from allottees must be deposited in a separate bank account to cover the cost of construction and land cost?
(A) 30%
(B) 50%
(C) 70%
(D) 100%

99. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): RERA 2016 mandates the compulsory registration of real estate agents who facilitate the sale or purchase of properties in registered projects.
Reason (R): This aims to bring accountability to the brokerage sector and prevent misrepresentation of project facts to prospective buyers.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

100. Which of the following pairs linking a RERA violation with its potential consequence is INCORRECTLY matched?
(A) Non-registration of a project – Penalty up to 10% of estimated project cost
(B) Continuous violation of Appellate Tribunal orders by a promoter – Imprisonment up to 3 years
(C) Promoter failing to give possession on time – Return of the amount with interest to the allottee
(D) Agent facilitating an unregistered project – Automatic cancellation of the agent's citizenship

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101. Match List-I with List-II and select the correct answer using the codes given below:
List I: (RERA Action)
P. Grant or rejection of project registration
Q. Structural defect liability period
R. Filing appeal to Appellate Tribunal
S. Promoter to rectify structural defect
List II: (Statutory Timeline)
1. 30 days from date of application
2. 5 years from date of possession
3. 60 days from date of receipt of order
4. 30 days from date of notice by allottee
(A) P-1, Q-2, R-3, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-3, R-2, S-4
(D) P-3, Q-2, R-1, S-4

102. A promoter executing a residential project in Bhopal registered under MP RERA fails to deliver the apartments by the promised date due to fund diversion. What immediate legal remedy can the allottees invoke under RERA?
(A) Occupy the unfinished apartments forcefully without further payment
(B) File a petition directly in the Supreme Court of India for project takeover
(C) File a complaint with MP RERA for a refund or interest on delay
(D) Take over the bank account and personal assets of the developer directly

103. Arrange the following landmark urban policy formulations in chronological order:
1. National Urban Transport Policy
2. National Urban Sanitation Policy
3. National Water Policy
4. National Urban Policy Framework
(A) 1, 2, 3, 4
(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 3, 2, 1, 4

43. (D) Statement I is false, but Statement II is true.
AMRUT 2.0 has distinct targets for different infrastructure types. While it aims for universal water supply coverage across all 4,800 statutory towns, the universal coverage for sewerage and septage management is specifically targeted at the 500 AMRUT cities. This prioritization ensures that the most densely populated and infrastructure-stressed cities achieve full sanitation coverage while other towns focus primarily on achieving universal water security.

44. (C) Construction of affordable housing complexes
The original AMRUT 1.0 guidelines focused primarily on basic urban infrastructure such as water supply, sewerage, septage management, and storm water drainage. It also included the development of green spaces and non-motorized transport. Affordable housing was not an explicit focus area of AMRUT, as it was already being addressed through the Pradhan Mantri Awas Yojana mission, which launched around the same time.

45. (D) Capacity Building and Reform Implementation
The Capacity Building and Reform Implementation component of the AMRUT mission provides dedicated funding to improve the institutional efficiency of municipal corporations. It supports training for municipal staff, the implementation of e-governance solutions, and various administrative reforms. These initiatives are designed to help Urban Local Bodies become more professional, transparent, and capable of managing large-scale infrastructure projects and providing better services.

46. (C) The focus on non-motorized transport successfully eliminated all vehicular traffic in the 500 cities.
While AMRUT 1.0 made significant strides in urban infrastructure, it did not eliminate all vehicular traffic in the targeted cities. The mission promoted non-motorized transport by creating pedestrian paths and cycling tracks, but vehicular traffic remains a major part of urban mobility. Transitioning to AMRUT 2.0 was necessary to address remaining gaps in universal water coverage, sanitation challenges, and the need for water rejuvenation.

47. (B) 34
In the first phase of the AMRUT mission, 34 cities in Madhya Pradesh were selected for infrastructure upgrades. These cities were chosen based on population and other selection criteria to receive funding for improving water supply, sewerage networks, and public green spaces. This selection allowed the state to focus its developmental efforts on major urban centers with significant infrastructure gaps and high service needs.

48. (D) Assessment of water distribution, reuse, and mapping in cities
Pey Jal Survekshan is a diagnostic tool introduced under AMRUT 2.0 to assess the health of water management in cities. It evaluates various parameters including water distribution, wastewater reuse, and the condition of water bodies. By conducting these assessments, the mission creates a competitive environment among cities and helps identify specific areas for improvement to achieve better water security and service delivery.

49. (A) 1, 2, and 4
The National Geospatial Policy 2022 liberalizes the creation and use of geospatial data by replacing the restrictive 2005 policy. It allows Indian private entities to collect and disseminate spatial data without prior government approvals. The policy aims to create a high-resolution National Topographic Database and promote a National Geospatial Data Framework to ensure data interoperability and boost the domestic digital mapping industry.

50. (C) National Map Policy 2005
The National Geospatial Policy 2022 represents a significant shift toward liberalization by replacing the National Map Policy of 2005. The previous policy was highly restrictive, requiring multiple permissions for surveying and mapping activities. The new framework removes these barriers for Indian entities, fostering innovation and allowing the private sector to play a lead role in the growth of India's geospatial economy.

51. (D) A is false but R is true.
While the National Geospatial Policy 2022 aims to attract investment and boost technology, it maintains certain restrictions on foreign

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(SHPSC)
(D) The District Collector

111. The following question consists of two statements, one labeled as Assertion (A) and the other as Reason (R). Examine these two statements carefully and select the correct answer using the codes given below:
Assertion (A): The National Geospatial Data Framework (NGDF) establishes strict data standards and metadata requirements.
Reason (R): Adherence to standardized metadata ensures that geospatial data created by different departments can be easily discovered, integrated, and shared.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

112. Which of the following pairs matching a Madhya Pradesh city with a prominent mission/policy application frequently cited in planning contexts is correctly matched?
(A) Mandla – Development of a coastal zone management plan
(B) Pachmarhi – Implementation of the Metro Rail Policy
(C) Singrauli – Designated as the primary IT hub under Smart Cities Mission
(D) Indore – Consistent top ranking in Swachh Survekshan reflecting robust sanitation policies

113. Match List-I with List-II and select the correct answer using the codes given below:
List I: (Urban Assessment/Index)
P. Pey Jal Survekshan
Q. Swachh Survekshan
R. Ease of Living Index
S. Credit-linked Subsidy Scheme (CLSS)
List II: (Associated Mission/Policy)
1. Swachh Bharat Mission (Urban)
2. AMRUT 2.0
3. Pradhan Mantri Awas Yojana (PMAY)
4. Smart Cities Mission / MoHUA Urban Assessment
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-4, Q-1, R-2, S-3

114. The local administration in Mandla, a tribal-majority district in Madhya Pradesh, is drafting a septage management plan under AMRUT guidelines. Due to the hilly terrain and dispersed settlements, a conventional underground sewerage network is unviable. What is the most appropriate case-based solution sanctioned under the policy?
(A) Forcing resettlement into concentrated multi-story housing enclaves to simplify the pipeline layout
(B) Implementation of Fecal Sludge and Septage Management (FSSM) utilizing mechanized treatment plants
(C) Abandoning septage management and discharging raw sewage into local streams due to geography
(D) Constructing large-scale centralized pumping stations regardless of the actual construction cost

115. Examine the following statements regarding the National Geospatial Policy 2022 and select the correct answer from the options given below:
Statement I: Indian private companies are now freely allowed to undertake mobile mapping and street view surveys.
Statement II: Such mapping data must be vetted by the Ministry of Defence before being hosted on public web portals.
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true, but Statement II is false.
(D) Statement I is false, but Statement II is true.

116. Which of the following is NOT a feature of the Affordable Rental Housing Complexes (ARHC) scheme?
(A) Conversion of existing government-funded vacant housing into ARHCs
(B) Construction, Operation, and Maintenance of ARHCs by Public/Private Entities on their own available vacant land
(C) Targeting urban migrants, street vendors, and industrial workers
(D) Transferring ownership of the rental units to the migrants free of cost after a lock-in period of 5 years

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117. How is the PM SVANidhi scheme functionally integrated with the broader DAY-NULM framework in practice?
(A) SVANidhi completely replaces all skill development programs previously managed under NULM enforcements.
(B) SVANidhi uses NULM/SV Act databases and TVCs to identify and disburse microcredit to beneficiaries.
(C) SVANidhi penalizes street vendors who are part of NULM self-help groups to avoid double subsidy benefits.
(D) There is no functional integration; they operate under entirely different ministries with no data sharing.

118. Which of the following statements INCORRECTLY describes the coverage criteria of AMRUT 2.0?
(A) It covers all 4,800+ statutory towns for universal coverage of water supply.
(B) It covers exactly 500 cities for universal coverage of sewerage and septage management.
(C) It explicitly restricts funding to only capital cities of states.
(D) It includes water body rejuvenation components across statutory towns.

119. In Madhya Pradesh, the MPUDC (Madhya Pradesh Urban Development Company) acts as the state-level executing agency for multilateral funded projects. What specific role does it play in the context of the AMRUT mission?
(A) It functions as the primary Real Estate Appellate Tribunal for all land-based civil infrastructure disputes.
(B) It solely handles the disbursement of microloans to street vendors under the PM SVANidhi mission scheme.
(C) It issues RERA registration certificates to private developers for projects exceeding 500 square meters.
(D) It assists ULBs in project preparation and execution of large-scale water and sewerage infrastructure.

120. Which of the following best encapsulates the "Vision for India's Urban Future" as outlined in the National Urban Policy Framework (NUPF) 2018?
(A) Creating cities that are productive, inclusive, sustainable, and driven by participative governance
(B) A future where urban growth is completely halted to preserve rural dominance and protect agrarian land enclaves
(C) Restricting urban citizenship only to high-income tax-paying individuals to ensure fiscal stability in cities
(D) Privatizing all municipal services to eliminate local government structures and enhance corporate efficiency

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ANSWERS

1. (A) 1, 2, and 4
The National Urban Policy Framework 2018 serves as a comprehensive agenda for India's urbanization, anchored on productivity, people, prosperity, planet, and participation. It integrates spatial planning with national economic goals to ensure coordinated development. While it guides urban transformation, it does not repeal the 74th Constitutional Amendment Act, which remains the bedrock of urban local governance and administrative decentralization.

2. (B) 2006
The National Urban Transport Policy was originally introduced in 2006 to provide a vision for sustainable urban mobility across India. It emphasizes a shift toward public transport and non-motorized options to improve accessibility and air quality. The policy is currently being reviewed and updated to align with modern urban transformation agendas like the National Urban Policy Framework for integrated spatial planning.

3. (D) A is false but R is true.
The Deendayal Antyodaya Yojana-National Urban Livelihoods Mission focuses on reducing urban poverty by enhancing the income of poor households. It achieves this through skill development, facilitating access to microcredit, and promoting self-employment. While it addresses various aspects of urban poverty, it does not exclusively provide free housing, which is handled under separate missions like the Pradhan Mantri Awas Yojana mission.

4. (D) National Water Policy 2012 – Urban property tax assessment
Various national urban policies target specific focus areas to ensure comprehensive city development. For instance, the National Urban Sanitation Policy aims for open-defecation-free cities, while the Transit Oriented Development Policy promotes compact growth. However, the National Water Policy 2012 focuses on the sustainable management and conservation of water resources, not on urban property tax assessment or local fiscal measures.

5. (A) P-2, Q-4, R-1, S-3
Indian urban policies provide specific provisions to address diverse developmental needs. The Street Vendors Act 2014 regulates street vending and protects livelihoods, while the National Urban Sanitation Policy 2008 focuses on city-wide planning and waste disposal. Furthermore, the National Urban Livelihood Mission provides skill training, and the Transit Oriented Development Policy encourages high-density development along mass transit corridors to improve efficiency.

6. (C) Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014
The Street Vendors Act 2014 provides a legal framework for the protection of livelihoods and the regulation of street vending in urban areas. It mandates local authorities to constitute a Town Vending Committee to oversee vendor surveys and identification. This legislation ensures that informal commercial activities are integrated into the urban fabric while maintaining the orderly movement of pedestrians and vehicles.

7. (A) 2, 1, 3, 4
The evolution of Indian urban policy follows a specific timeline starting with early iterations of the National Housing Policy. This was followed by the National Urban Housing and Habitat Policy in 2007. Later, the National Urban Sanitation Policy was introduced in 2008. The National Transit Oriented Development Policy is a more recent addition, formulated in 2017 to promote compact urban growth.

8. (A) Privatization
The National Urban Policy Framework 2018 is built upon five foundational pillars often referred to as the Five Ps. These include productivity, people, prosperity, planet, and participation. These pillars are designed to guide the sustainable and inclusive transformation of urban areas in India. Privatization is not included as one of

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104. Which of the following scenarios is NOT exempt from project registration under RERA?
(A) The area of land proposed to be developed is 400 square meters.
(B) The number of apartments proposed to be developed is six.
(C) The promoter has received a completion certificate for the project prior to the commencement of RERA.
(D) The project involves the construction of a 50-unit residential complex on a 2000 square meter plot.

105. An architect-planner identifies a structural crack in an apartment complex 4 years after possession. Under RERA competency norms, how should this be handled?
(A) It is the sole responsibility of the Residents' Welfare Association (RWA) to repair all project defects.
(B) The promoter must rectify the defect as it falls within the 5-year liability period.
(C) The architect must report it to the municipal corporation for immediate condemnation and demolition.
(D) The defect liability is nullified once the conveyance deed is signed by the allottee and promoter.

106. Which of the following statements correctly describes the policy approach towards 'Co-living and dormitory housing'?
(A) It addresses transitional housing needs of millennials and young professionals.
(B) It seeks to eliminate the rental market by converting all dormitories into freehold property enclaves.
(C) It aims to restrict urban migration by making dormitory housing prohibitively expensive for students.
(D) It mandates that all co-living spaces must be owned and operated strictly by state level governments.

107. A mega-township in Indore is advertised as 'MP RERA Compliant'. From a town planning enforcement perspective, what does this assure the prospective buyer?
(A) Layout approvals, titles, and escrow mechanisms have been validated by the Authority.
(B) The project is completely tax-free for the entire duration of its construction and delivery cycle.
(C) The construction will be completed within six months regardless of the project's scale or location.
(D) The state government guarantees to purchase any unsold inventory at the current market price levels.

108. Under the Street Vendors Act 2014, how is the 'Town Vending Committee' (TVC) functionally defined?
(A) A state-level judicial body that penalizes illegal street vendors and manages fiscal collections
(B) A purely voluntary NGO that provides free meals to vendors and manages their personal welfare
(C) A local body for vendor surveys, certification, and zone identification
(D) A division of the traffic police dedicated to evicting hawkers from highways and arterial roads

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109. Consider the following statements regarding the Water Body Rejuvenation component under AMRUT 2.0:
1. It aims to rejuvenate urban water bodies to improve aquifer recharge.
2. It completely prohibits the creation of recreational public spaces around rejuvenated water bodies.
3. It aims to reduce urban flooding through better management of water bodies.
4. It encourages community participation in the upkeep of local water bodies.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1 and 4 only

110. Under the AMRUT mission, after Urban Local Bodies prepare their Service Level Improvement Plans (SLIPs), who holds the final authority at the state level to aggregate them and approve the State Annual Action Plan (SAAP)?
(A) The Chief Minister's Office directly
(B) The Real Estate Regulatory Authority
(C) The State High Powered Steering Committee

application. A promoter is the entity constructing the building, while an allottee is the purchaser of the property. Real estate agents facilitate transactions between these parties and must be registered to operate.

18. (C) The project obtains deemed registration, necessitating the issuance of a number.
According to RERA rules, the Regulatory Authority must grant or reject project registration within 30 days of receiving an application. If the Authority fails to take action within this period, the project is considered to have received deemed registration. In such cases, the Authority must provide a registration number and login credentials to the promoter for project disclosure.

19. (C) Statement I is true, but Statement II is false.
Any aggrieved allottee has the legal right to file a complaint with the Real Estate Regulatory Authority against a registered promoter for violations of the Act. However, the decisions of the Authority are not final in an absolute sense. Any party dissatisfied with an order can file an appeal before the Real Estate Appellate Tribunal and subsequently the High Court.

20. (D) Guaranteeing a fixed percentage of capital appreciation on the property to the allottee
Promoters under RERA have several mandatory obligations, including quarterly project updates and providing a five-year structural defect warranty. They must also execute a registered conveyance deed to transfer title to the allottee. However, the law does not require promoters to guarantee capital appreciation or financial returns, as property values are determined by market forces and not regulatory mandates.

21. (B) The promoter is legally bound to rectify the structural defect within 30 days without further charge.
RERA 2016 provides a five-year defect liability period from the date of handing over possession to the allottee. If a structural defect or any other quality issue is brought to the promoter's notice during this timeframe, the promoter must rectify it free of cost. This rectification must be completed within 30 days, failing which the allottee can seek compensation.

22. (C) The registration granted to a real estate agent is valid indefinitely and does not require renewal.
Real estate agents must obtain mandatory registration under RERA to facilitate property transactions. They are required to maintain proper books of accounts and are prohibited from promoting unregistered projects. Unlike a permanent license, the registration granted to an agent is valid for a specific period as prescribed by state rules and must be renewed periodically to remain legally active.

23. (D) Bhopal
The Madhya Pradesh Real Estate Appellate Tribunal is the designated body for hearing appeals against the orders and decisions of the state Regulatory Authority. Its principal bench is located in Bhopal, the state capital. The Tribunal serves as a crucial judicial layer in the RERA framework, providing an accessible platform for stakeholders to seek redressal for real estate disputes.

24. (A) Legal presumption of permission if the authority fails to decide in time
Deemed approval is a regulatory mechanism where a project application is legally presumed to be approved if the competent authority fails to grant or reject it within a specified statutory timeframe. This provision is intended to improve administrative efficiency and prevent unnecessary delays in development projects. It holds the authorities accountable for timely decision-making and reduces bureaucratic hurdles for developers.

25. (A) 1, 2, and 3
The Affordable Rental Housing Complexes scheme was launched as a sub-mission under PMAY-U to provide dignified rental housing for urban migrants. It focuses on converting vacant government-funded houses and incentivizing private entities to build rental units on their own land. The scheme emphasizes affordable rent for transient populations rather than offering ownership rights, which are covered under other PMAY-U verticals.

26. (B) 'Affordable Housing for All' with emphasis on vulnerable sections
The National Urban Housing and Habitat Policy 2007 aimed to promote sustainable development

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these core pillars, as the framework emphasizes collaborative and participative governance.

9. (B) National Transit Oriented Development Policy 2017
The National Transit Oriented Development Policy 2017 encourages high-density, mixed-use development within walking distance of mass transit corridors like the BRTS in Indore. By increasing Floor Area Ratio norms, the policy aims to increase public transport ridership and reduce urban sprawl. This strategy creates compact, walkable communities that integrate land use with transport infrastructure for more efficient and sustainable urban living.

10. (B) It aims to provide all-weather 24x7 shelters with essential services.
The Shelter for Urban Homeless scheme is a vital component of the National Urban Livelihoods Mission. It aims to provide all-weather, 24x7 shelters equipped with essential services like water, sanitation, and electricity for the destitute urban population. The scheme focuses on ensuring the dignity and safety of the homeless rather than providing permanent land titles or excluding individuals from municipal limits.

11. (A) Madhya Pradesh Urban Development Company (MPUDC)
The Madhya Pradesh Urban Development Company serves as a specialized nodal agency for executing large-scale urban infrastructure projects across the state. It facilitates funding and implementation for critical sectors such as water supply, sewerage, and septage management under various national and state missions. This body provides technical and financial support to urban local bodies to ensure sustainable infrastructure development.

12. (C) Reserving housing units for EWS and LIG groups in new developments
Inclusionary zoning is a land-use planning strategy used to increase the supply of affordable housing. It requires private developers to reserve a specific percentage of housing units or land for Economically Weaker Sections and Low Income Groups in new residential projects. This policy promotes social equity and ensures that diverse income groups can live in well-developed urban neighborhoods.

13. (A) 1 and 2 only
The Real Estate (Regulation and Development) Act 2016 requires project registration if the land area exceeds 500 square meters or if it includes more than eight apartments. Promoters must deposit 70% of collections into an escrow account for construction and land costs. These provisions apply to both residential and commercial projects, and real estate agents must also register.

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14. (C) Net usable floor area excluding external walls, shafts, and balconies
Under the RERA 2016 framework, carpet area is strictly defined to ensure transparency for homebuyers. It represents the net usable floor area of an apartment, specifically including internal partition walls but excluding external walls, service shafts, and exclusive balconies or terraces. This standardized definition prevents promoters from inflating the saleable area with common spaces or external building components.

15. (A) Both A and R are true and R is the correct explanation of A.
RERA 2016 mandates that promoters deposit 70% of the funds realized from allottees into a separate bank account. This statutory requirement is specifically designed to ensure that the money collected for a particular project is utilized only for the land and construction costs of that same project. This prevents the diversion of funds to other projects, ensuring timely completion.

16. (D) Central Advisory Council – Advise the Central Government on the implementation of RERA
The institutional framework of RERA includes several specialized bodies with distinct roles. The Central Advisory Council is tasked with advising the Central Government on policy matters and the effective implementation of the Act. While the Regulatory Authority handles registration and complaints, the Appellate Tribunal hears appeals against its decisions. These institutions work together to ensure transparency and consumer protection.

17. (A) P-3, Q-2, R-4, S-1
RERA defines several key features and stakeholders to regulate the real estate sector effectively. Deemed registration occurs if the Authority fails to respond within 30 days of an

35. (A) Madhya Pradesh Housing and Infrastructure Development Board (MPHIDB)
The Madhya Pradesh Housing and Infrastructure Development Board is the premier statutory body responsible for the planning and construction of affordable housing across the state. It develops various residential projects specifically targeting Economically Weaker Sections and Low Income Groups. The board plays a critical role in increasing the housing stock and providing quality infrastructure for various income categories in urban Madhya Pradesh.

36. (D) The demand for flexible and affordable rental housing by young professionals
The rise of co-living and dormitory housing in urban centers is primarily driven by the changing lifestyle needs of young professionals and students. These populations often prioritize flexibility, shared amenities, and affordability over traditional long-term ownership. Modern urban policies support these housing models to provide dignified rental options that cater to the mobility and social preferences of the contemporary workforce in major cities.

37. (A) 1, 2, and 4
AMRUT 1.0 was launched in 2015 to improve infrastructure in 500 cities, focusing on water supply, sewerage, and green spaces. It utilizes a cooperative federalism model where the central government provides funding based on State Annual Action Plans. Unlike some other schemes, it does not bypass state governments; instead, it requires their active participation in planning and project execution through consolidated state-level plans.

38. (C) 4,800
AMRUT 2.0, launched in 2021, significantly expanded the scope of the original mission to achieve universal water coverage. It targets all 4,800 statutory towns in the country to provide functional household tap connections to every urban home. This expansion reflects the mission's goal of ensuring water security and basic infrastructure for the entire urban population, moving beyond the initial 500 cities.

39. (A) Both A and R are true and R is the correct explanation of A.
In the AMRUT mission framework, the State Annual Action Plan is the primary document used for project funding and approval. It is created by the state government by aggregating the Service Level Improvement Plans prepared by each participating Urban Local Body. This bottom-up approach ensures that local infrastructure gaps are accurately identified and addressed through a consolidated and coordinated state-level infrastructure strategy.

40. (A) Green spaces and parks – Enhancement of urban amenity value and child-friendly spaces
One of the core focus areas of the AMRUT mission is the development and maintenance of green spaces and parks. This component aims to enhance the overall amenity value of cities and provide safe, accessible recreation areas, especially for children. Other mission components like sewerage focus on septage management and water security, while transport interventions specifically target non-motorized infrastructure like pedestrian pathways and cycles.

41. (A) P-3, Q-1, R-2, S-4
The AMRUT mission utilizes several standardized terms to define its planning and management processes. SLIP refers to the Service Level Improvement Plan made by cities, while SAAP is the consolidated State Annual Action Plan. PDMC represents the consultants who assist in project development, and NMT stands for Non-Motorized Transport, focusing on sustainable mobility like walking and cycling infrastructure in urban areas.

42. (B) Water Body Rejuvenation
The restoration of historic water bodies like Robertson Lake in Jabalpur is a key objective of AMRUT 2.0. This component focuses on rejuvenating urban lakes and ponds to improve groundwater recharge and provide public recreational spaces. By ensuring that untreated sewage does not enter these water bodies, the mission promotes a cleaner environment and enhances the ecological resilience of urban areas.

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of habitat in the country with a view to ensuring equitable supply of land, shelter, and services at affordable prices. It focused on the mantra of affordable housing for all, particularly for the economically weaker sections and low-income groups, by encouraging public-private partnerships and state-level policy reforms.

27. (A) Both A and R are true and R is the correct explanation of A.
The PM SVANidhi scheme is a critical poverty reduction initiative providing microcredit to street vendors who were severely impacted by the pandemic. By offering collateral-free working capital loans, the scheme helps vendors resume their businesses and integrates them into the formal financial system. This microcredit support is essential for stabilizing livelihoods and fostering economic resilience among the urban poor.

28. (C) AMRUT 1.0 – Rural housing electrification
The AMRUT mission is strictly an urban development initiative focused on providing basic infrastructure such as water supply, sewerage, and green spaces in 500 selected cities. It does not cover rural housing electrification, which is addressed through other rural-specific schemes like the Deen Dayal Upadhyaya Gram Jyoti Yojana. Other listed pairs correctly identify the target beneficiaries of their respective missions.

29. (A) P-3, Q-1, R-4, S-2
Urban housing and livelihood policies use various spatial and regulatory tools to manage city growth. Inclusionary zoning mandates affordable units within private developments, while co-living policies address shared amenities for transient populations. Night shelters provide essential overnight facilities for the destitute, and hawker zones designate specific areas for street vending to protect livelihoods while ensuring the smooth flow of pedestrians.

30. (C) The capacity of the zone versus the count of registered street vendors
When designating hawker zones, local authorities must ensure that the capacity of the identified area is sufficient to accommodate the number of registered street vendors. This is essential to prevent overcrowding and ensure that the zone remains functional for both vendors and pedestrians. Surveys are mandatory under the Street Vendors Act to match available spatial resources with the actual livelihood needs.

31. (4, 1, 2, 3)
The timeline of urban missions begins with the National Urban Livelihoods Mission in 2013, followed by the launch of AMRUT 1.0 in 2015. The Real Estate (Regulation and Development) Act was enacted in 2016 to bring accountability to the property sector. Finally, the Affordable Rental Housing Complexes scheme was introduced in 2020 as a response to the migrant crisis.

32. (D) High-net-worth foreign expatriates
The Affordable Rental Housing Complexes scheme is specifically designed to provide low-cost rental accommodation to the urban poor and migrants. Its target beneficiaries include industrial workers, construction laborers, market associates, and hospitality sector staff. High-net-worth foreign expatriates are not included as beneficiaries, as the scheme focuses on addressing the housing deficit for those who cannot afford market-rate rentals in urban areas.

33. (A) Reserve a percentage of plots or units for EWS and LIG groups
Large-scale residential developments in Madhya Pradesh must comply with inclusive housing guidelines that mandate the provision of affordable units. Developers are generally required to reserve a specific percentage of their layout or built-up units for Economically Weaker Sections and Low Income Groups. This ensures that major urban expansions contribute to social equity and provide housing options for diverse income segments.

34. (C) They aim to provide dedicated, secure, and subsidized rental or ownership housing.
Housing policies for specialized government personnel, such as police and defense staff, focus on providing secure and affordable living environments near their workplaces. These enclaves are typically subsidized and managed by government agencies to ensure that personnel have access to quality housing and social infrastructure. Such projects must still comply with relevant local building byelaws and environmental regulations for sustainable development.

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entities. Foreign-owned companies do not have unrestricted access to high-resolution topographic data; instead, only Indian entities are allowed to collect and own such sensitive data. This balance ensures that the country leverages geospatial innovation while safeguarding national security and protecting domestic data ownership.

52. (D) Metadata – The actual satellite image pixel data
In geospatial technology, metadata refers to "data about data," providing essential information about the source, accuracy, and system of the dataset. It is not the actual pixel data of a satellite image itself. Other agencies like the Survey of India and ISRO play major roles through platforms like Bhuvan, while the National Geospatial Data Framework standardizes how this information is organized and shared.

53. (A) P-2, Q-1, R-4, S-3
The geospatial ecosystem in India is supported by several initiatives and frameworks. Bhuvan is ISRO's platform for visualizing satellite imagery, and NGIS is a national geographic information system initiative. Liberalization removes prior approval requirements for Indian entities conducting surveys. Meanwhile, the National Geospatial Data Framework ensures that spatial data is standardized and interoperable across different government departments and private organizations.

54. (C) Yes, under NGP 2022 liberalized provisions for Indian entities.
Under the National Geospatial Policy 2022, Indian municipal bodies and private entities can conduct high-resolution drone mapping for civilian purposes like property tax assessment without seeking prior security clearance. This liberalization removes the procedural delays that existed under the 2005 policy. It empowers local authorities to use modern technology for urban management while ensuring that data remains within the control of Indian organizations.

55. (B) 2, 1, 3, 4
India's geospatial policies have evolved from the Remote Sensing Data Policy to the National Map Policy in 2005. More recently, the government introduced the liberalized National Geospatial Guidelines in 2021, which paved the way for the comprehensive National Geospatial Policy in 2022. This chronological progression shows a clear trend from strict government control toward a more open and innovation-friendly environment for mapping.

56. (A) Financial pricing of physical land parcels
The National Geospatial Data Framework focuses on technical standards for spatial data, such as referencing systems, data quality, and feature classification. These standards ensure that data from different sources can be integrated and used together seamlessly. Financial pricing of individual land parcels is a matter of local real estate markets and fiscal policy, rather than a component of technical geospatial data interoperability standards.

57. (B) It can freely map using terrestrial and aerial methods as an Indian entity.
Under the liberalized National Geospatial Policy 2022, an Indian entity can freely use terrestrial and aerial mapping technologies, including drones, for urban planning projects. There is no longer a requirement for prior licenses or approvals for such surveys. This change allows private firms to operate efficiently, fostering a competitive geospatial services market and supporting faster development of high-quality urban base maps.

58. (B) It seeks to promote geospatial innovation, startups, and private enterprise to boost the digital economy and create employment.
The National Geospatial Policy 2022 is designed to unlock the economic potential of spatial data by encouraging private sector participation and innovation. It aims to support startups and small businesses in the geospatial sector, which in turn boosts the digital economy and creates jobs. By moving away from a government monopoly, the policy fosters a vibrant ecosystem for location-based services and technologies.

59. (A) Madhya Pradesh Agency for Promotion of Information Technology (MAP_IT)
MAP_IT is the premier agency in Madhya Pradesh responsible for implementing state-wide geospatial policies and managing spatial data infrastructure. It coordinates IT and GIS projects across various government departments, ensuring that spatial data is effectively utilized

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imagery and GIS mapping to update their property tax registers. By overlaying this imagery with existing records and utility data, authorities can identify buildings that have been expanded or are missing from the tax base. This technological approach increases revenue efficiency without the need for intensive and time-consuming door-to-door physical surveys.

94. (C) It explicitly mandates the abolition of the Rent Control Acts in all states to protect tenants indefinitely.
The National Urban Rental Housing Policy framework recognizes the need for diverse housing options, including formal rental stock for migrants and the urban poor. It encourages public-private partnerships and institutional investment in the sector. While it suggests reforms to Rent Control Acts to encourage investment, it does not mandate their total abolition or provide indefinite protection for only one party.

95. (B) State geospatial framework and e-governance integration
The online portals operated by the Town and Country Planning Department in Madhya Pradesh represent the practical application of the state's geospatial and e-governance initiatives. These tools provide citizens and developers with easy access to master plans and land-use information. By integrating spatial data with digital service delivery, the state improves transparency and makes urban planning more accessible to stakeholders.

96. (D) To reduce urban poverty by enabling access to self-employment and skilled wage jobs
The primary mission of DAY-NULM is to alleviate urban poverty by providing the poor with opportunities for self-employment and skilled wage work. It focuses on capacity building, social mobilization, and providing financial assistance through various mission components. By empowering the urban poor with the necessary skills and resources, the mission aims to foster sustainable livelihoods and improve their overall economic well-being.

97. (A) 1, 2, and 4
The Real Estate Appellate Tribunal is a judicial body established to hear appeals against the decisions of the Regulatory Authority. Aggrieved parties must generally file their appeals within 60 days. While the Tribunal is not bound by strict procedural codes, it must follow principles of natural justice. This ensures a fair and accessible legal process for resolving disputes between homebuyers and promoters.

98. (C) 70%
RERA 2016 requires promoters to deposit 70% of the funds collected from allottees into a dedicated project bank account. This statutory requirement ensures that a significant portion of the money is strictly used for the construction and land costs of that specific project. This provision is designed to improve project completion rates and protect buyers from the risks of fund diversion.

99. (A) Both A and R are true and R is the correct explanation of A.
The mandatory registration of real estate agents under RERA aims to bring transparency and professionalism to the brokerage sector. By making agents accountable, the law prevents the misrepresentation of project details and ensures that buyers receive accurate information. This regulatory oversight is essential for building trust in the real estate market and protecting consumers from fraudulent practices by intermediaries.

100. (D) Agent facilitating an unregistered project – Automatic cancellation of the agent's citizenship
RERA 2016 includes various penalties for violations, such as fines for non-registration and potential imprisonment for non-compliance with tribunal orders. If a promoter fails to deliver possession on time, they must return the buyer's money with interest. However, the law does not include provisions for the automatic cancellation of citizenship, as regulatory penalties are limited to financial fines and imprisonment under civil law.

101. (A) P-1, Q-2, R-3, S-4
RERA 2016 prescribes specific timelines for various regulatory actions to ensure efficiency and accountability. The Authority must grant or reject registration within 30 days of application, and promoters have a five-year structural defect liability period. Appeals to the Tribunal must be filed within 60 days, while promoters are required to rectify structural defects within 30 days of receiving notice.

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68. (D) To unilaterally alter the approved architectural design of the building exterior
Homebuyers, or allottees, have several rights under RERA, including access to sanctioned plans, completion schedules, and the right to seek refunds with interest for delays. However, allottees do not have the right to unilaterally alter the building's exterior design. Any major changes to the project must be approved by the competent authority and generally require the consent of a majority of allottees.

69. (B) National Transit Oriented Development (TOD) Policy
The proposal to allow higher floor space index and mixed-use zoning near metro stations is a direct application of the National Transit Oriented Development Policy. This strategy aims to create compact urban growth by concentrating development around public transit nodes. By encouraging people to live and work near transit, the policy reduces reliance on private vehicles, decreases congestion, and promotes sustainable urban mobility.

70. (C) Universal Basic Income (UBI) provision of a fixed monthly salary to all urban residents
DAY-NULM includes components for skill training, social mobilization, and financial assistance for self-employment. It also focuses on providing shelters for the homeless and supporting street vendors. The mission does not provide a Universal Basic Income or a fixed salary to all urban residents. Its primary goal is to empower the urban poor through capacity building and facilitating access to gainful employment.

71. (D) Margin money and interest subsidies for infrastructure loans
The Chief Minister Urban Infrastructure Development Scheme in Madhya Pradesh provides financial support to Urban Local Bodies primarily through margin money and interest subsidies. This assistance helps ULBs secure loans for critical infrastructure projects from various financial institutions. By reducing the financial burden of borrowing, the scheme enables cities to undertake major upgrades in water, sanitation, and transport sectors for better urban service delivery.

72. (A) It is included in the carpet area calculation.
In accordance with RERA 2016, the calculation of carpet area must include the area covered by the internal partition walls of the apartment. This ensures that the disclosed area reflects the actual usable space within the outer walls of the unit. However, the thickness of external walls and areas like balconies are excluded, providing a standardized and transparent measurement for prospective homebuyers.

73. (A) 1, 2, and 3
AMRUT 2.0 aims to achieve universal water coverage through tap connections in all statutory towns and improve sewerage management in 500 cities. It also promotes the circular economy of water by encouraging the recycling of treated sewage. Funding is provided through a combination of central and state grants, rather than being entirely delegated to international donor agencies, ensuring national government involvement.

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74. (B) Up to ₹10,000
The PM SVANidhi scheme provides street vendors with an initial working capital loan of up to ₹10,000 to help them resume their businesses. Vendors who repay this first loan on time are eligible for higher loan amounts in subsequent cycles. This microcredit support is designed to provide quick and affordable financial assistance to informal traders who lack access to traditional banking.

75. (A) Both A and R are true and R is the correct explanation of A.
The Affordable Rental Housing Complexes scheme was introduced in 2020 as a direct response to the COVID-19 pandemic. The reverse migration of workers highlighted a critical lack of affordable rental housing near urban workplaces. By providing dignified and low-cost rental options, the scheme aims to support migrants and ensure they have a stable and safe place to live in cities.

76. (C) AMRUT 1.0 primary thrust – Smart city command centers
AMRUT 1.0 focused primarily on basic physical infrastructure such as water supply, sewerage, and green spaces, rather than smart city command centers. Command centers are a key feature of

Level Improvement Plans from various cities and approve the State Annual Action Plan. This committee ensures that project selection and funding are aligned with state priorities and national mission guidelines for infrastructure development.

111. (A) Both A and R are true and R is the correct explanation of A.
The National Geospatial Data Framework sets strict standards for spatial data and metadata to ensure that datasets are interoperable. Standardized metadata is crucial because it allows different departments and agencies to easily find, understand, and integrate data from various sources. This coordination is essential for complex urban planning tasks that require the combination of diverse layers of spatial information for accurate analysis.

112. (D) Indore – Consistent top ranking in Swachh Survekshan reflecting robust sanitation policies
Indore's consistent success in the Swachh Survekshan is a prime example of the effective implementation of national sanitation policies at the local level. The city's top rankings reflect its robust waste management systems, public participation, and commitment to maintaining an open-defecation-free status. This achievement serves as a model for other urban centers in Madhya Pradesh and across India for achieving high standards of cleanliness.

113. (A) P-2, Q-1, R-4, S-3
Various national urban missions use specialized assessments to track progress and performance. Pey Jal Survekshan is part of AMRUT 2.0, while Swachh Survekshan monitors sanitation under the Swachh Bharat Mission. The Ease of Living Index is a broader assessment tool for urban quality, and the Credit-linked Subsidy Scheme is a key financial component of the Pradhan Mantri Awas Yojana for housing.

114. (B) Implementation of Fecal Sludge and Septage Management (FSSM) utilizing mechanized treatment plants
In difficult terrains where conventional sewerage networks are not feasible, AMRUT guidelines promote Fecal Sludge and Septage Management. This approach involves the periodic emptying of septic tanks and the transportation of sludge to specialized treatment plants. FSSM is a cost-effective and practical sanitation solution for smaller towns and areas with challenging geography, ensuring safe waste disposal and environmental protection without expensive piping.

115. (C) Statement I is true, but Statement II is false.
The 2022 National Geospatial Policy allows Indian companies to freely conduct street view and mobile mapping surveys without prior government approvals. This liberalization encourages innovation in navigation and location-based services. While data must follow general safety standards, the policy removes the requirement for vetting every civilian map by the Ministry of Defence, streamlining the process for hosting geospatial data on public platforms.

116. (D) Transferring ownership of the rental units to the migrants free of cost after a lock-in period of 5 years
The ARHC scheme is strictly a rental housing initiative designed to provide affordable and dignified accommodation for transient urban populations. It focuses on sustainable operation and maintenance by public or private entities for a specified period. The scheme does not involve transferring ownership rights to the tenants, as its primary goal is to maintain a permanent stock of affordable rental units.

117. (B) SVANidhi uses NULM/SV Act databases and TVCs to identify and disburse microcredit to beneficiaries.
PM SVANidhi is functionally integrated with DAY-NULM by utilizing its existing databases of surveyed street vendors. Town Vending Committees, established under the Street Vendors Act and NULM guidelines, play a key role in identifying eligible beneficiaries for the microcredit scheme. This synergy ensures that financial assistance reaches the intended vendors efficiently, leveraging established institutional frameworks for better outreach and impact.

118. (C) It explicitly restricts funding to only capital cities of states.
AMRUT 2.0 provides universal coverage for water supply across all statutory towns, not just capital cities. It also covers 500 cities for sewerage and septage management and includes

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to ensure that funding is directed toward the most critical infrastructure needs.

85. (A) 1, 2, and 4
The National Geospatial Policy 2022 focuses on creating a National Geospatial Data Registry and an integrated information framework. It also prioritizes capacity building and skill development to support the growth of the geospatial sector. The policy does not ban open-source software; instead, it aims to create an open and liberalized environment that encourages innovation and the use of modern spatial technologies.

86. (C) Indian Space Research Organisation (ISRO)
Bhuvan is a powerful national geospatial portal developed and hosted by ISRO. It provides various services, including the visualization of multi-resolution satellite imagery and thematic maps for India. The platform is widely used for urban planning, environmental monitoring, and governance. By providing accessible spatial data, Bhuvan supports the implementation of various national and state-level developmental policies and infrastructure projects.

87. (A) Both A and R are true and R is the correct explanation of A.
The liberalization of geospatial data is a key feature of the 2022 policy, allowing Indian private entities to collect and share data without prior government approvals. This shift recognizes that geospatial information is a fundamental driver of economic growth and digital inclusion. By making data more accessible, the policy promotes innovation, improves ease of doing business, and supports diverse sectors.

88. (A) Land Use Land Cover (LULC) mapping – Identifying temporal changes in urban sprawl
Land Use Land Cover mapping is a critical geospatial application for urban planners to monitor how a city's footprint changes over time. By analyzing satellite imagery, planners can identify trends in urban sprawl and make informed decisions about land use and infrastructure expansion. Other tools like digital elevation models are used for flood modeling, while cadastral mapping focuses on property boundaries.

89. (A) P-2, Q-3, R-4, S-1
Urban missions and policies are managed by various specialized national ministries. The Ministry of Housing and Urban Affairs oversees NULM and the implementation of RERA. The Department of Science and Technology is responsible for the National Geospatial Policy, while the Ministry of Jal Shakti manages the National Water Policy. This distribution ensures that each policy is guided by specialized expertise.

90. (B) National Geospatial Policy 2022
The National Geospatial Policy 2022 empowers government departments like Town and Country Planning to acquire high-accuracy spatial data from private mapping agencies easily. By liberalizing data sharing and removing prior approval requirements, the policy speeds up the process of regional planning. This access to high-quality data is essential for creating accurate spatial plans for large areas like the Narmada River basin.

91. (C) Statement I is true, but Statement II is false.
The National Geographic Information System (NGIS) aims to provide a standardized and integrated platform for geospatial data across India. This centralized approach supports e-governance by ensuring that spatial information is consistent and easily accessible for various government functions. Standardizing data formats and storage is a key goal of NGIS, moving away from decentralized and non-standardized systems that hinder data integration.

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92. (B) They cannot create or own horizontal geospatial data finer than 1 meter.
The National Geospatial Policy 2022 places specific restrictions on foreign entities to safeguard national interests. They are generally prohibited from creating or owning high-resolution horizontal geospatial data with an accuracy finer than 1 meter. This ensures that the most sensitive and detailed spatial information remains under the control of Indian entities while allowing foreign companies to provide various location-based services.

93. (D) By using drone imagery overlaid with utility data to identify unassessed areas
Modern geospatial policies allow municipal corporations to use high-resolution drone

for better governance. The agency plays a critical role in capacity building and providing the technical framework for the state's digital and spatial initiatives.

60. (C) Data providing info on other data's source, accuracy, and system.
Metadata is a fundamental concept in geospatial data management, defined as data that provides information about other data. It includes details such as the data's origin, coordinate system, resolution, and accuracy. By maintaining comprehensive metadata, users can understand the reliability and context of a dataset, which is essential for correctly integrating and analyzing spatial information from diverse sources in planning.

61. (B) 1, 3, and 4
The Street Vendors Act 2014 protects livelihoods by mandating the creation of Town Vending Committees and requiring local authorities to formulate periodic vending plans. It prevents the eviction of vendors until surveys are completed and certificates are issued. The Act does not ban street vending in metropolitan cities; instead, it seeks to regulate it through designated zones to balance livelihood and traffic.

62. (B) 500 square meters
Under RERA 2016, a real estate project must be registered if the total area of land proposed for development exceeds 500 square meters. Projects smaller than this threshold, or those involving fewer than eight apartments, are generally exempt from mandatory registration. This threshold ensures that larger commercial and residential developments are brought under regulatory oversight while reducing the burden on very small-scale projects.

63. (A) Both A and R are true and R is the correct explanation of A.
Inclusionary zoning policies are designed to promote social inclusion by requiring private developers to provide affordable housing for Economically Weaker Sections and Low Income Groups. By leveraging private capital, cities can address the housing shortage for vulnerable populations without relying solely on public funding. This strategy creates integrated neighborhoods where residents from different economic backgrounds can coexist within the same development area.

64. (D) Promoter failing to register a project – Penalty up to 10% of the estimated cost of the real estate project
RERA 2016 prescribes specific penalties for various violations to ensure compliance and protect buyers. A promoter who fails to register a project can be fined up to 10% of the estimated project cost. Other penalties include fines for providing false information or non-compliance with tribunal orders. While penalties are significant, they do not include automatic forfeiture of all land or mandatory life imprisonment.

65. (A) P-3, Q-1, R-2, S-4
RERA defines several critical terms to ensure transparency in real estate transactions. Common areas include shared facilities like parks and elevators. The escrow account holds 70% of the funds to ensure they are used for construction. Carpet area is the net usable floor space, and the completion certificate is the official document confirming the project was built according to the sanctioned plans.

66. (C) National Urban Sanitation Policy (NUSP) 2008
The National Urban Sanitation Policy of 2008 was the first major national framework to emphasize the creation of City Sanitation Plans. It aimed to make Indian cities open-defecation-free and focused on city-wide sanitation planning and safe waste disposal. This policy laid the groundwork for future missions like the Swachh Bharat Mission, which further scaled up sanitation and cleanliness efforts across the country.

67. (D) Statement I is false, but Statement II is true.
The National Water Policy 2012 encourages the recycling and reuse of treated wastewater for non-potable purposes like industrial use and urban landscaping. It does not recommend subsidizing industrial water usage; instead, it advocates for a pricing system that reflects the scarcity and value of water. This approach promotes water conservation and ensures that urban water resources are managed sustainably for future generations.

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102. (C) File a complaint with MP RERA for a refund or interest on delay
If a promoter fails to deliver a registered project on time, allottees have the legal right to file a complaint with the state Regulatory Authority. They can seek a full refund of their payments along with interest or claim interest for the period of delay if they choose to stay in the project. This provide a clear and formal legal remedy for homebuyers.

103. (A) 1, 2, 3, 4
India's urban policy landscape has developed through several key frameworks over time. The National Urban Transport Policy was introduced in 2006, followed by the National Urban Sanitation Policy in 2008. The National Water Policy was updated in 2012, and the comprehensive National Urban Policy Framework was formulated in 2018 to integrate these various sectoral goals into a unified urban vision.

104. (D) The project involves the construction of a 50-unit residential complex on a 2000 square meter plot.
Projects that exceed the area and unit thresholds defined in RERA must be registered. A 50-unit complex on a 2000 square meter plot far exceeds the 500 square meter and eight-unit limits, making its registration mandatory. Exemption is only granted for very small projects or those that received a completion certificate before the Act came into force, ensuring oversight of major developments.

105. (B) The promoter must rectify the defect as it falls within the 5-year liability period.
Under RERA, a promoter is responsible for rectifying any structural defects or quality issues that appear within five years of handing over possession. If a crack is identified four years after possession, it still falls within this statutory liability period. The promoter must fix the defect without charging the allottee, ensuring that buildings are constructed to high standards and protecting long-term investment.

106. (A) It addresses transitional housing needs of millennials and young professionals.
Co-living and dormitory housing policies cater to the growing demand for flexible and affordable rental options in cities. These models are particularly popular among young professionals and students who require shared amenities and shorter lease terms. By recognizing these formats, urban policies ensure that transient populations have access to dignified and safe living environments that match their modern, mobile lifestyles.

107. (A) Layout approvals, titles, and escrow mechanisms have been validated by the Authority.
A project being "RERA Compliant" signifies that the promoter has fulfilled all statutory requirements, including validating land titles and obtaining necessary layout approvals. It also ensures that an escrow account has been set up to manage funds appropriately. For an urban planner, this means the project has been vetted for compliance with sanctioned plans and regulatory standards, providing security for buyers.

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108. (C) A local body for vendor surveys, certification, and zone identification
The Town Vending Committee is a local statutory body mandated by the Street Vendors Act 2014. It is responsible for conducting vendor surveys, issuing certificates of vending, and identifying suitable vending zones. The committee includes representatives from the local authority, street vendors, and other stakeholders, ensuring a participative approach to regulating informal trade while protecting the livelihoods of urban vendors.

109. (B) 1, 3, and 4
AMRUT 2.0 focuses on the rejuvenation of urban water bodies to improve aquifer recharge and reduce the risk of flooding. The mission encourages community participation in the maintenance of these spaces and supports the creation of recreational areas around them. By integrating ecological restoration with public amenities, the mission enhances urban environmental quality and provides valuable green spaces for city residents.

110. (C) The State High Powered Steering Committee (SHPSC)
The State High Powered Steering Committee is the apex body at the state level for the implementation of the AMRUT mission. It has the final authority to aggregate the Service

the separate Smart Cities Mission. AMRUT 2.0 continues this focus on basic infrastructure while emphasizing water security and the circular economy to ensure sustainable and universal access to water for all urban residents.

77. (A) P-2, Q-3, R-1, S-4
Various urban missions target different needs and populations. PM SVANidhi provides microcredit to street vendors, while DAY-NULM focuses on skill development for the urban poor. The ARHC scheme addresses the rental needs of urban migrants, and the AMRUT mission provides essential water and sewerage infrastructure. Together, these programs form a comprehensive framework for improving urban livelihoods and city-wide service delivery.

78. (C) Paying a compensatory 'shelter fee' to the municipal corporation or state nodal agency
In Madhya Pradesh, if a developer of a large residential layout cannot provide the mandated EWS/LIG housing on-site, they may be permitted to pay a compensatory 'shelter fee'. This fee is collected by the local authority or state agency and utilized specifically for constructing affordable housing elsewhere. This alternative ensures that the developer contributes to inclusive housing goals while providing flexibility in layout planning.

79. (A) 2, 1, 3
The National Housing Policy has evolved through several iterations, starting with early articulations focused on eradicating houselessness. Later, policies began recognizing housing as a formal industry to attract investment and improve standards. The National Urban Housing and Habitat Policy 2007 refined this focus toward "Affordable Housing for All," emphasizing the needs of vulnerable populations and the importance of sustainable urban habitat development.

80. (D) Complete privatization of urban local bodies
AMRUT 2.0 aims to improve urban governance through water body rejuvenation, reducing non-revenue water, and implementing property tax reforms. It focuses on strengthening the capacity and financial sustainability of Urban Local Bodies rather than privatizing them completely. The mission encourages public-private partnerships for service delivery but maintains the role of local governments as primary providers and regulators of essential urban services.

81. (A) Water balance assessment and wastewater reuse planning
A Water Security City Plan under AMRUT 2.0 requires technical expertise in water balance assessment to manage the supply and demand of water resources. This includes planning for the recycling and reuse of treated wastewater and rejuvenating local water bodies. These competencies are essential for building urban resilience and ensuring that cities have a sustainable and secure water supply for all residents.

82. (C) The scheme recommends providing a minimum space of 50 square feet (approx. 4.64 sq. m) per person.
The Shelter for Urban Homeless scheme provides specific norms for the design and operation of shelters. It recommends a minimum space of 50 square feet per person to ensure a dignified living environment. Shelters must be all-weather facilities equipped with basic amenities and should cater to various vulnerable groups, including men, women, and families, to provide a comprehensive safety net.

83. (A) Smart Cities Mission and AMRUT
The integration of water supply networks with smart technologies like SCADA systems demonstrates the synergy between the AMRUT mission and the Smart Cities Mission. While AMRUT focuses on the physical infrastructure of water supply, the Smart Cities Mission provides the digital tools to monitor and manage it efficiently. This convergence leads to better resource management, reduced leakage, and improved service delivery.

84. (D) A document assessing infrastructure gaps and proposing project benchmarks
A Service Level Improvement Plan is a foundational document prepared by Urban Local Bodies under the AMRUT mission. It identifies existing gaps in basic services like water and sewerage and proposes specific projects to meet national benchmarks. These individual city plans are then aggregated into state-level action plans

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components for rejuvenating water bodies across the country. By providing broad geographic coverage, the mission ensures that infrastructure improvements reach a wide range of urban areas, supporting balanced regional development and better services.

119. (D) It assists ULBs in project preparation and execution of large-scale water and sewerage infrastructure.
The Madhya Pradesh Urban Development Company plays a vital role in the AMRUT mission by assisting Urban Local Bodies with technical and financial project management. It helps prepare detailed project reports and oversees the execution of complex water supply and sewerage infrastructure. This support is essential for ULBs that may lack the internal capacity to manage large-scale, multilaterally funded developmental projects.

120. (A) Creating cities that are productive, inclusive, sustainable, and driven by participative governance
The National Urban Policy Framework 2018 outlines a comprehensive vision for the future of Indian cities. It aims to create urban centers that are economically productive and socially inclusive. By emphasizing environmental sustainability and participative governance, the framework ensures that cities become efficient engines of growth that improve the overall quality of life for all residents through coordinated and sustainable development.

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CHAPTER 24
State Urban Development Programs

1. Consider the following statements regarding the Madhya Pradesh Urban Development and Housing Policy:
1. It aims to promote public-private partnerships in urban infrastructure development.
2. It completely restricts the regularisation of all existing unauthorised colonies to discourage illegal plotting.
3. It advocates for the implementation of unified development control regulations across the state.
4. It emphasizes energy-efficient street lighting and integrated solid waste management systems.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 4

2. Under the heritage tourism circuit development initiatives in Madhya Pradesh, which of the following cities is primarily being developed with a focus on its integration of Buddhist architectural heritage into the broader urban tourism infrastructure?
(A) Orchha
(B) Khajuraho
(C) Ujjain
(D) Sanchi

3. Which of the following is a correct statement regarding the Atal Jyoti Yojana implemented in Madhya Pradesh?
(A) Ensuring continuous power and upgraded urban street lighting.
(B) Providing fully subsidized rooftop solar panels to urban slum clusters.
(C) Electrifying irrigation pumps in specialized peri-urban agricultural zones.
(D) Financing local sector schemes through the Ministry of Power contribution.

4. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): The Integrated Township Policy of Madhya Pradesh encourages private developers to provide trunk infrastructure within township limits.
Reason (R): The state government lacks the statutory authority to acquire land for urban development projects.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

5. In the context of the Shyama Prasad Mukherjee Rurban Mission, how is a "Rurban Cluster" specifically defined?
(A) Contiguous village areas with 25,000–50,000 population and growth potential.
(B) Statutory administrative zones merging two or more municipal corporations.
(C) Special industrial economic zones established on city peripheral boundaries.
(D) Designated urban local bodies governed by specialized Nagar Panchayats.

6. Consider the following statements regarding the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in Madhya Pradesh:
Statement I: The scheme strictly limits its coverage to only million-plus cities in the state.
Statement II: The fund allocation to Urban Local Bodies under this scheme is determined predominantly by a population-based formula.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.

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(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

7. Match the state housing programs (List I) with their primary target or feature (List II) in Madhya Pradesh:
List I: State Housing Programs
P. Mukhyamantri Shahari Aawas Mission
Q. Mukhyamantri Gramin Aawas Mission
R. Affordable Housing Policy
S. EWS Housing Schemes
List II: Primary Target or Feature
1. Provision of heavily subsidized plots/flats for lowest income quartile
2. Rural habitat improvement and housing finance subsidy
3. Incentive framework for private developers to build low-cost units
4. In-situ upgradation and housing provision for urban poor
(A) P-4, Q-2, R-3, S-1
(B) P-3, Q-1, R-4, S-2
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-4, R-1, S-3

8. All of the following are eligible works under the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) EXCEPT:
(A) Construction of urban roads and storm water drains.
(B) Development of city parks and community halls.
(C) Payment of outstanding salaries and pensions of municipal staff.
(D) Upgradation of municipal water supply distribution networks.

9. Which of the following is a correct pair regarding urban planning reforms in Madhya Pradesh?
(A) Auto-DCR - Manual verification of structural drawings by municipal engineers
(B) AMRUT reform - Discontinuation of urban property tax assessments
(C) Accrual-based accounting - Maintaining municipal accounts strictly on a cash-received basis
(D) E-permit - Online system for automated building plan approval and permission

10. Arrange the standard procedural steps for project execution under the Chief Minister Urban Infrastructure Development Scheme (CMUIDS) in correct chronological order:
1. Administrative Approval
2. Project Identification by ULB
3. Execution and Monitoring
4. Technical Sanction
(A) 2, 4, 1, 3
(B) 2, 1, 4, 3
(C) 1, 2, 4, 3
(D) 4, 2, 1, 3

11. Which of the following statements is INCORRECT regarding the Madhya Pradesh Housing and Infrastructure Development Board (MPHIDB)?
(A) It serves as a nodal agency for implementing various state and central housing schemes.
(B) It functions exclusively as a regulatory body and does not undertake actual construction projects.
(C) It executes projects catering to different income groups including EWS, LIG, MIG, and HIG.
(D) It is involved in the implementation of the Pradhan Mantri Awas Yojana - Urban (PMAY-U) in the state.

12. A newly formed Nagar Parishad in Madhya Pradesh seeks to upgrade its civic amenities using state funds.
According to the CMUIDS framework, how should the initial step for infrastructural improvement be approached?
(A) The ULB must bypass its council and directly request the State Finance Commission for an ad-hoc grant.
(B) The ULB level process must identify specific projects based on local needs and submit them for technical sanction.
(C) The District Collector unilaterally imposes a pre-designed master project without local consultation.
(D) The ULB must wait for a Central Government directive before proposing local drainage works.

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66. Consider the following statements regarding the Unified Development Control Regulations (UDCR) in Madhya Pradesh:
Statement I: The UDCR provides separate and distinct building bylaws for every individual municipal corporation in the state without any standardisation.
Statement II: The UDCR standardises planning norms such as FAR, ground coverage, and setbacks across cities to streamline the Auto-DCR system.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

67. Match the specific MP-context cities (List I) with their recognized urban development or heritage features under state policies (List II):
List I: MP-context Cities
P. Indore
Q. Sanchi
R. Ujjain
S. Bhopal
List II: Urban Development or Heritage Features
1. Implementation of GIS-based property tax and high solid waste management standards
2. Mahakal Lok corridor and religious heritage tourism infrastructure
3. Focus on Buddhist heritage circuit development
4. MP Urban Observatory and state-level smart city command centers
(A) P-1, Q-3, R-2, S-4
(B) P-2, Q-1, R-4, S-3
(C) P-1, Q-2, R-3, S-4
(D) P-4, Q-3, R-2, S-1

68. Which of the following is the MOST appropriate reason for establishing the Madhya Pradesh Urban Observatory?
(A) To physically observe and monitor vehicular traffic congestion in real-time using drones.
(B) To function as an astronomical research center for state universities.
(C) Creating a data repository to track evidence-based service benchmarks.
(D) To serve as a grievance redressal call center for the rural housing board.

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69. Under the state planning reforms, the initiative to prepare GIS-based master plans in Madhya Pradesh is being directly driven by which state-level department?
(A) Town and Country Planning (TCP) Department
(B) Department of Agriculture
(C) Department of Higher Education
(D) Madhya Pradesh Police Housing Corporation

70. Which of the following is an INCORRECT pair regarding the funding mechanisms of MP urban schemes?
(A) Rurban Mission - Critical Gap Funding (CGF)
(B) CMUIDS - Population-based fund allocation formula
(C) PMAY-U - Convergence of central assistance, state share, and beneficiary share
(D) Smart City Mission - 100% funded by urban local body revenues

71. A Rurban cluster in a tribal district of Madhya Pradesh exhibits high potential for non-timber forest produce (NTFP).
According to the Rurban Mission guidelines, what should be the primary focus of the Integrated Cluster Action Plan (ICAP) for this specific area?
(A) Establishing heavy metallurgical industries.
(B) Developing skill centers and market linkages tailored to NTFP processing.
(C) Converting the entire forest area into a high-density urban township.
(D) Implementing a large-scale IT park.

72. Which of the following is a correct statement regarding the Mukhyamantri Gramin Aawas Mission in Madhya Pradesh?
(A) It strictly deals with multi-story apartment construction in metropolitan centers.
(B) It has been entirely merged into the CMUIDS framework.
(C) It provides financial aid and institutional credit for rural households.
(D) It prohibits beneficiaries from using local

List II: Implementation Feature

1. Ensuring transparency in municipal financial statements
2. Spatial mapping for accurate tax assessment in cities like Indore
3. Online processing of building permissions
4. Identifying non-revenue water and distribution losses

(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-3, Q-1, R-4, S-2

20. Which of the following is an INCORRECT pair regarding the Rurban Mission's 14 desirable components?

(A) Skill development training - Economic livelihood enhancement
(B) Piped water supply systems - Providing basic civic infrastructure
(C) Fully automated heavy industry - Cluster mandatory component
(D) Solid and liquid waste management - Environmental sanitation

21. A major municipal corporation in MP wishes to issue Municipal Bonds to raise capital for an advanced water treatment plant.
Based on the AMRUT reform agenda, what prerequisite must the ULB fulfil to make these bonds attractive to investors?

(A) Securing an investment-grade credit rating from a recognized agency.
(B) Eliminating all local property taxes and service-level user charges.
(C) Transferring municipal assets to the State Finance and Revenue Department.
(D) Reverting to a manual single-entry cash-based municipal accounting system.

22. Arrange the historical evolution of spatial planning modernization steps in Madhya Pradesh municipal governance in chronological order:

1. Preparation of conventional manual master plans.
2. Formulation of the Unified Development Control Regulations (UDCR).
3. Implementation of the GIS-based master plan preparation initiative.
4. Launch of the E-permit and Auto-DCR systems integrated with GIS.

(A) 1, 3, 2, 4
(B) 1, 2, 3, 4
(C) 3, 1, 4, 2
(D) 2, 1, 3, 4

23. Which of the following execution agencies is most appropriate for undertaking large-scale specialized water supply augmentation projects under CMUIDS when the local ULB lacks the necessary technical capacity?

(A) Madhya Pradesh Housing Board
(B) Madhya Pradesh Urban Development Company (MPUDC)
(C) State Election Commission
(D) Department of Tourism

24. All of the following are recognized mechanisms for ensuring public disclosure and transparency reforms in MP Urban Local Bodies EXCEPT:

(A) Publishing annual audited financial statements online.
(B) Utilizing service level benchmarking data to inform citizens of civic performance.
(C) Restricting access to municipal council resolutions under the Official Secrets Act.
(D) Implementing citizen charters for time-bound delivery of urban services.

25. Consider the following statements regarding the Madhya Pradesh Housing and Infrastructure Development Board (MPHIDB):

1. It executes in-situ slum redevelopment projects in various MP cities.
2. It operates purely as a private real estate company for profit maximization.
3. It plays a pivotal role in constructing night shelters for the urban homeless.
4. It facilitates the development of working women hostels and student housing.

Which of the statements given above are correct?

(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 4

26. Which of the following statements is correct regarding the implementation of the Auto-DCR system in Madhya Pradesh?

(A) It reads CAD drawings for automated building bylaws compliance.

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(B) It relies entirely on physical site inspections by manual architectural surveyors.
(C) It is a grievance redressal mechanism for delayed municipal property tax collections.
(D) It restricts citizens from viewing the status of their building permissions online.

27. In the context of municipal reforms, how is "Service Level Benchmarking" (SLB) defined in MP cities?
(A) The physical demarcation of ward boundaries based on historic limits.
(B) Standardized measurement of performance in delivering civic services.
(C) The maximum height restriction for commercial units defined in the UDCR.
(D) The state's fixed tariff rate for subsidized intra-city public transport.

28. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): The issuance of municipal bonds by local bodies in Madhya Pradesh requires rigorous financial discipline and accrual-based accounting.
Reason (R): Investors require transparent financial disclosures and creditworthiness assessments to mitigate the risk of default.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

29. Under the Madhya Pradesh tourism infrastructure development program, the heritage tourism circuit explicitly encompasses which of the following groups of cities?
(A) Khajuraho, Sanchi, Orchha, Ujjain
(B) Indore, Bhopal, Jabalpur
(C) Rewa, Satna, Singrauli
(D) Mandla, Dindori, Anuppur

30. A Town Planner is tasked with designing an in-situ slum redevelopment project in Jabalpur.
To make the project financially viable without heavy state subsidies, which concept application is most appropriate?
(A) Relocating slum residents to city outskirts and auctioning prime land.
(B) Demolishing existing slums to create large-scale central public parks.
(C) Granting extra FAR to cross-subsidize free housing using land resources.
(D) Charging slum dwellers the full upfront market rate for construction.

31. Match the urban reform components (List I) with their specific outcomes in Madhya Pradesh (List II):
List I: Urban Reform Components
P. E-permit
Q. GIS-based Master Plan
R. Urban Observatory
S. Ring-fencing of accounts
List II: Specific Outcomes
1. Ensuring funds generated from a service are utilized only for that service
2. Data-driven urban governance and policy formulation
3. Spatial accuracy in land use zoning and infrastructure planning
4. Reduction in human interface and corruption in building approvals
(A) P-4, Q-3, R-2, S-1
(B) P-3, Q-4, R-1, S-2
(C) P-4, Q-2, R-3, S-1
(D) P-1, Q-3, R-2, S-4

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32. The Mukhyamantri Shahari Aawas Mission in Madhya Pradesh focuses on providing housing for the urban poor. All of the following are strategies typically utilized under such state missions EXCEPT:
(A) Beneficiary-led construction subsidies.
(B) Affordable housing in partnership with private developers.
(C) Mandatory acquisition of tribal agricultural lands for luxury villas.
(D) Credit-linked interest subsidies for EWS categories.

33. Consider the following statements regarding the fund release mechanism under CMUIDS:
Statement I: Funds are released in a single upfront lump sum irrespective of the project's progress.
Statement II: The release of subsequent fund

installments is contingent upon the submission of Utilisation Certificates (UCs) and satisfactory work quality inspections.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

34. Arrange the sequential steps for the preparation and execution of an Integrated Cluster Action Plan (ICAP) under the Rurban Mission:
1. Selection of the Rurban cluster based on spatial and demographic criteria.
2. Preparation of the ICAP identifying critical infrastructure gaps.
3. Approval of the ICAP and sanctioning of Critical Gap Funding (CGF).
4. Convergence of existing schemes and on-ground project execution.

(A) 2, 1, 3, 4
(B) 1, 2, 3, 4
(C) 1, 3, 2, 4
(D) 4, 1, 2, 3

35. Which of the following statements is INCORRECT regarding the Madhya Pradesh Industrial Infrastructure Development Corporation (MPIDC)?
(A) It acts as the primary regulatory body for finalizing municipal property tax rates across MP.
(B) It is responsible for developing industrial areas and investment corridors in the state.
(C) It focuses on providing trunk infrastructure like roads, water, and power to industrial townships.
(D) It facilitates the ease of doing business for entrepreneurs setting up industries in MP.

36. Which of the following is a correct pair regarding urban electricity distribution infrastructure reforms in MP?
(A) MPEB urban reforms - Complete privatization of the state grid without regulation
(B) Atal Jyoti Yojana - Restricting urban electricity supply to 12 hours a day
(C) Smart Metering - Reduction of AT&C (Aggregate Technical and Commercial) losses in cities
(D) Underground cabling - Increasing vulnerability to extreme weather disruptions

37. Consider the following statements regarding the Chief Minister Urban Infrastructure Development Scheme (CMUIDS):
1. Project identification is an exclusive mandate of the central government.
2. The scheme allows convergence with other centrally sponsored schemes to maximize impact.
3. Work quality monitoring and regular inspections are integral to the scheme's execution.
4. The primary objective is to bridge the infrastructure deficit in the ULBs of Madhya Pradesh.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, and 4

38. Under the AMRUT reform agenda implemented in Madhya Pradesh, what is the primary purpose of conducting "water audits" in municipal water supply systems?
(A) Evaluating the chemical purity of commercial bottled water in the city.
(B) Determining the maximum flood levels of rivers adjacent to urban areas.
(C) Auditing the financial accounts of unregulated private water tankers.
(D) Balancing water supplied and billed to identify non-revenue losses.

39. The local authority of Ujjain is developing a plan to manage the massive influx of tourists and pilgrims.
To integrate heritage tourism with urban infrastructure sustainably, which intervention aligns best with the state's heritage circuit policies?
(A) Replacing historical temples with high-rise modern hotels to increase accommodation capacity.
(B) Developing pedestrianized heritage

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13. Consider the following statements regarding the Shyama Prasad Mukherjee Rurban Mission:
1. It aims to stimulate local economic development, enhance basic services, and create well-planned Rurban clusters.
2. The mission completely excludes agricultural-based clusters and focuses only on manufacturing zones.
3. Critical Gap Funding (CGF) is provided as a central share to bridge the funding gap for cluster development.
4. Integrated Cluster Action Plans (ICAPs) are prepared to outline the spatial and economic development of the clusters.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 4

14. Which urban data initiative was specifically established to act as a centralized platform for monitoring urban indicators and governing municipal data in Madhya Pradesh?
(A) MP Digital Land Records System
(B) State Census Data Centre
(C) Madhya Pradesh Urban Observatory
(D) CM Dashboard for Rural Affairs

15. As an Assistant Town Planner evaluating an Integrated Cluster Action Plan (ICAP) under the Rurban Mission in MP, which competency is most critical to ensure the plan's financial viability?
Which competency is most critical to ensure the plan's financial viability?
(A) Facilitating massive agricultural land conversion for industrial purposes.
(B) Ensuring the total exclusion of all private sector investment projects.
(C) Drafting arbitrary growth projections to maximize CGF allocation grants.
(D) Converging existing schemes with required Critical Gap Funding.

16. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): Madhya Pradesh has introduced Unified Development Control Regulations (UDCR) across its urban areas.
Reason (R): UDCR ensures standardization of building bylaws and planning norms, thereby reducing ambiguity and facilitating the Auto-DCR process.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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17. In the context of Madhya Pradesh's riverfront development, the major urban projects aimed at ecological restoration, ghat development, and tourism primarily focus on the cities located along which river?
(A) Chambal
(B) Narmada
(C) Betwa
(D) Shipra

18. Consider the following statements regarding the regularisation of unauthorised colonies in Madhya Pradesh:
Statement I: The MP policy mandates immediate demolition of all unauthorized colonies built before 2016 without any scope for regularisation.
Statement II: The policy provides a framework for regularisation subject to the payment of requisite compounding fees and provision of basic infrastructure.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

19. Match the planning reform (List I) with its corresponding implementation feature in Madhya Pradesh (List II):
List I: Planning Reform
P. GIS-based Property Tax
Q. Accrual-based Accounting
R. Water Audits
S. E-permit

all municipal water treatment plants.
(C) Restricting urban sprawl by creating a strictly enforced green belt around the municipal limits.
(D) Freezing the municipal budget to prevent any new infrastructural development.

46. Arrange the implementation stages of the E-permit (Online Building Permission System) in a typical MP city in chronological order:
1. Online submission of CAD drawings by a registered architect.
2. Auto-scrutiny of the plan against Unified Development Control Regulations (UDCR).
3. Online payment of requisite building permission fees.
4. Digital issuance of the building permission certificate.

(A) 1, 2, 3, 4
(B) 1, 3, 2, 4
(C) 2, 1, 3, 4
(D) 3, 1, 2, 4

47. In the context of Madhya Pradesh's affordable housing policy, the concept of "Rental housing scheme for urban poor" was primarily designed to address the needs of:
(A) High Net Worth Individuals seeking secondary investment properties.
(B) Non-Resident Indians (NRIs) returning to MP.
(C) Large-scale corporate offices establishing headquarters in Bhopal.
(D) Migrants and urban poor who are unable to afford homeownership.

48. All of the following are components explicitly identified as "desirable components" under the SPM Rurban Mission EXCEPT:
(A) Skill development training linked to economic activities.
(B) Digital literacy and e-gram connectivity.
(C) Establishment of a state-level legislative assembly building.
(D) Upgrading school and higher education facilities.

49. Consider the following statements regarding the regularisation of unauthorised colonies under MP policy:
1. It aims to integrate unplanned settlements into the formal municipal service network.
2. Residents must form resident welfare associations (RWAs) to facilitate infrastructure development.
3. The policy waives all compounding fees and provides infrastructure entirely free of cost.
4. Layout plans must be submitted and approved to ensure minimum planning standards are met retrospectively.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, and 3

50. Consider the following statements regarding the convergence strategy in the SPM Rurban Mission:
Statement I: Convergence ensures that various Central and State Government schemes are synergized to fund the components of the Integrated Cluster Action Plan.
Statement II: The Mission prohibits the use of MGNREGA or PMGSY funds within Rurban clusters.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

51. Which of the following is a correct statement regarding the Digital MP and urban digital services initiative?
(A) Providing seamless online citizen services via e-Nagar Palika portals.
(B) Mandating that all municipal services be accessed solely through physical visits to the Nagar Nigam offices.
(C) Dismantling existing GIS infrastructure to revert to manual paper-based record keeping systems.
(D) Targeting rural agricultural subsidies exclusively with no components for urban local bodies.

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corridors, upgrading solid waste management, and establishing decentralized parking zones.
(C) Banning all commercial activities within a 5-km radius of the city center.
(D) Rerouting the Shipra river to construct a central commercial plaza.

40. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): Madhya Pradesh has adopted a GIS-based property tax assessment system in major cities like Indore and Bhopal.
Reason (R): GIS mapping allows for the accurate measurement of built-up areas and identifies unassessed or under-assessed properties, thereby increasing municipal revenues.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

41. Which of the following is an INCORRECT pair concerning the housing initiatives in Madhya Pradesh?
(A) Night shelters - Seasonal temporary urban accommodation
(B) CM Awas Yojana - Housing supplement to the PMAY-U
(C) Working women hostels - Safe residential facilities for female professionals
(D) Co-operative housing - State-owned rental housing for government employees

42. As a planner tasked with monitoring work quality under CMUIDS, which set of documents is legally required before releasing the final payment to the execution agency?
Which set of documents is legally required before releasing the final payment to the execution agency?
(A) Technical sanction, inspection reports, and Utilisation Certificates.
(B) Approved master plans, demographic census reports, and local voter lists.
(C) Environmental clearances, state budget speeches, and tax registers.
(D) Beneficiary lists, building bylaws, and official recommendation letters.

43. Match the cluster development aspects of the SPM Rurban Mission (List I) with their descriptors (List II):
List I: Cluster Development Aspects
P. Non-agri growth cluster
Q. Agri-based cluster
R. Critical Gap Funding
S. Spatial criteria
List II: Descriptors
1. Villages with high potential for agro-processing and value chain development
2. Clusters demonstrating manufacturing or service sector potential
3. Contiguity of Gram Panchayats and demographic thresholds
4. Financial support to bridge funding deficits after scheme convergence
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-2, Q-3, R-4, S-1
(D) P-3, Q-1, R-2, S-4

44. Which approach is most appropriate for a ULB in Madhya Pradesh to overcome limitations in CMUIDS funding for a multi-crore sewage treatment plant?
Which approach is most appropriate for a ULB in Madhya Pradesh to overcome limitations in CMUIDS funding for a multi-crore sewage treatment plant?
(A) Imposing an arbitrary 500% hike on residential property taxes immediately.
(B) Ensuring convergence of CMUIDS funds with national missions like Swachh Bharat Mission (SBM) or AMRUT.
(C) Abandoning the project and reallocating the funds to administrative salaries.
(D) Securing short-term, high-interest commercial loans from private moneylenders.

45. The "Ring-fencing" reform under the AMRUT agenda in MP urban local bodies is best described by which concept?
(A) Reinvesting utility revenues solely back into that specific service.
(B) Building a physical boundary wall around

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(B) 2, 1, 3, 4
(C) 1, 3, 2, 4
(D) 3, 1, 2, 4

59. Which of the following statements is INCORRECT regarding the Chief Minister Awas Yojana in Madhya Pradesh?
(A) It acts as a state supplement to the Pradhan Mantri Awas Yojana (PMAY).
(B) It is exclusively applicable to high-income group (HIG) housing projects.
(C) It provides additional financial assistance to beneficiaries to make housing more affordable.
(D) It aims to achieve the goal of 'Housing for All' in both urban and rural contexts.

60. As an urban planner reviewing an ongoing CMUIDS road construction project, you notice a significant deviation from the sanctioned technical specifications.
What is the most competent regulatory action to take?
(A) Approve the deviation to ensure the funds are utilized before the financial year ends.
(B) Withhold the Utilisation Certificate and mandate rectification of the work.
(C) Transfer the project to the MP Housing Board immediately.
(D) Request the contractor to adjust the technical drawings to match the flawed construction.

61. Consider the following statements regarding the AMRUT reform agenda in Madhya Pradesh:
1. It mandates the implementation of an accrual-based double-entry accounting system.
2. It requires cities to conduct regular water and energy audits.
3. It entirely abolishes user charges for water supply to assist the urban poor.
4. It encourages ULBs to obtain credit ratings to explore municipal bond markets.

Which of the statements given above are correct?
(A) 1, 2, and 3
(B) 1, 2, and 4
(C) 2, 3, and 4
(D) 1, 3, and 4

62. Which of the following is a correct pair regarding urban infrastructure programs in Madhya Pradesh?
(A) Atal Jyoti Yojana - Heritage conservation
(B) ICAP - State industrial corridor planning
(C) CMUIDS - Pan-state urban infrastructure deficit bridging
(D) Auto-DCR - Manual property tax collection

63. Which nodal agency is primarily responsible for the execution of large-scale affordable housing projects under state initiatives like PMAY-U and state housing policies in Madhya Pradesh?
(A) Madhya Pradesh Road Development Corporation
(B) State Bureau of Investigation
(C) MP State Tourism Development Corporation
(D) MP Housing and Infrastructure Development Board

64. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): The Rurban Mission classifies clusters into two types: non-agri growth clusters and agri-based clusters.
Reason (R): This classification ensures that spatial planning and economic interventions are tailored to the unique resource base and livelihood patterns of the specific region.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. All of the following are primary objectives of the Madhya Pradesh Integrated Township Policy EXCEPT:
(A) Encouraging private investment in the real estate sector.
(B) Mandating the nationalization of all private real estate development companies.
(C) Promoting planned and self-contained urban settlements.
(D) Ensuring provision of EWS/LIG housing within the township developments.

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52. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): The allocation of funds to ULBs under the CMUIDS is primarily based on a population-based formula.
Reason (R): Distributing funds strictly according to population ensures that larger cities receive more funding while ignoring the specific infrastructural deficits of smaller towns.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

53. In the context of municipal accounting reforms in Madhya Pradesh, what does the transition to "accrual-based accounting" mean?
(A) Recognizing revenues when earned and expenses when incurred.
(B) Recording financial transactions only when cash is exchanged.
(C) Abolishing all forms of municipal auditing and transparency.
(D) Maintaining financial records exclusively on a single-entry ledger.

54. A middle-income family in Bhopal wants to build an additional floor on their existing residential property.
Under the reformed planning systems in MP, what is the mandatory process they must undergo?
(A) Obtain verbal consent from the ward corporator.
(B) Submit architectural plans manually to the Mayor's office for arbitrary approval.
(C) Register the property under the Rurban Mission to get a building permit.
(D) Apply via the E-permit system for automated UDCR compliance checks.

55. Match the Madhya Pradesh institutions (List I) with their primary mandates (List II):
List I: Madhya Pradesh Institutions
P. MPUDC
Q. TCP Department
R. MPHIDB
S. UDHD
List II: Primary Mandates
1. Apex department governing urban local bodies and urban administration
2. Preparation of Master Plans and spatial development policies
3. Execution of state-level urban infrastructure and water projects
4. Construction of affordable housing and infrastructure development
(A) P-3, Q-2, R-4, S-1
(B) P-2, Q-3, R-1, S-4
(C) P-4, Q-1, R-2, S-3
(D) P-3, Q-4, R-1, S-2

56. The concept of "value chain development" emphasized in the Rurban Mission for agri-based clusters is best applied by:
(A) Replacing diverse cropping patterns with a single cash crop for export, ignoring local food security.
(B) Relocating all agricultural workers to major metropolitan cities to work in manufacturing.
(C) Establishing local agro-processing units and market linkages for farmers.
(D) Providing free electricity without metering for all agricultural pumps.

57. Under the MP Urban Development initiatives, the Narmada Riverfront Development specifically incorporates projects in which of the following municipal corporations?
(A) Gwalior
(B) Rewa
(C) Satna
(D) Jabalpur

58. Arrange the logical progression of formulating a GIS-based master plan in an MP city in chronological order:
1. Procurement of high-resolution satellite imagery.
2. Creation of base maps and existing land use mapping.
3. Conducting socio-economic surveys and demand projections.
4. Finalization of proposed land use and zoning regulations.
(A) 1, 2, 3, 4

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building materials.

73. Consider the following statements regarding the EWS housing schemes in MP:
1. Projects under this scheme often utilize cross-subsidization mechanisms.
2. MPHIDB plays a significant role in executing these housing projects.
3. The schemes mandate that all EWS units must have a minimum carpet area of 1000 sq. ft.
4. Beneficiaries are selected based on strict income criteria.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 2, and 3
(C) 2, 3, and 4
(D) 1, 3, and 4

74. Applying the principles of accrual-based accounting, if an MP Municipal Corporation issues property tax bills in March 2023 but receives the actual cash payment in May 2023, in which financial year should the revenue ideally be recognized?
In which financial year should the revenue ideally be recognized?
(A) The year the bill was issued and revenue earned (FY 2022-23).
(B) The year the cash is received (FY 2023-24).
(C) The year the property was originally constructed.
(D) Accrual accounting does not track property taxes.

75. As a project manager for MPUDC overseeing a CMUIDS water supply project, you find that the population-based fund allocation is insufficient for the rugged terrain of the ULB.
What competency is essential to resolve this?
(A) Abandoning the project immediately.
(B) Structuring a financial convergence plan using AMRUT or special grants.
(C) Proposing arbitrary population inflation to get more funds.
(D) Reducing the pipeline quality to fit the available budget.

76. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).

Assertion (A): The regularisation of unauthorised colonies in MP is accompanied by the mandatory provision of civic infrastructure by the local body.
Reason (R): Regularisation without infrastructure provision merely provides legal title without improving the deteriorating environmental and sanitary conditions of the settlement.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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77. In the context of municipal reforms, how is the term "Auto-DCR" defined?
(A) Software for automated building plan scrutiny against standard bylaws.
(B) An automated daily collection register for municipal solid waste.
(C) A robotic demolition squad for removing encroachments.
(D) An automatic dispute resolution mechanism for property tax conflicts.

78. All of the following are inherent limitations or challenges in the implementation of the SPM Rurban Mission EXCEPT:
(A) Difficulty in achieving functional convergence among disparate departmental schemes.
(B) Delays in the preparation and approval of detailed Integrated Cluster Action Plans.
(C) Excessive availability of unlimited unassigned funds, leading to wasteful expenditure.
(D) Lack of adequate technical capacity at the Gram Panchayat level for spatial planning.

79. Match the planning instruments (List I) with their primary functional purpose in MP (List II):
List I: Planning Instruments
P. Auto-DCR
Q. ICAP
R. SLB
S. CGF
List II: Primary Functional Purpose

eliminates confusion caused by varying local bylaws and facilitates the use of automated systems for building plan approvals. By ensuring that setbacks, height limits, and coverage rules are consistent, the government promotes transparency and speeds up the construction permission process.

17. (B) Narmada
Major riverfront development projects in the state prioritize the ecological restoration and tourism potential of cities situated along this prominent river. These initiatives involve the development of public ghats, recreational spaces, and sanitation infrastructure to prevent pollution. By focusing on this specific watercourse, the state aims to integrate natural heritage with urban amenities, enhancing the cultural and environmental value of cities.

18. (D) Statement I is incorrect and Statement II is correct.
The state policy focuses on integrating existing unauthorized settlements into the formal urban network rather than relying solely on demolition. It provides a legal pathway for regularisation, provided that residents pay the necessary fees and ensure the development of basic infrastructure. This approach balances the need for urban discipline with the practical reality of unplanned housing, ensuring improved living conditions.

19. (A) P-2, Q-1, R-4, S-3
Planning reforms use modern technology and accounting standards to improve municipal efficiency. GIS mapping allows for the accurate spatial assessment of property taxes, while accrual-based accounting ensures financial transparency. Additionally, water audits help identify distribution losses, and digital permission systems streamline building approvals. These interventions collectively enhance the revenue-generating capacity and operational performance of urban local bodies through data-driven and automated management.

20. (C) Fully automated heavy industry - Cluster mandatory component
The mission identifies several desirable components to enhance the quality of life in rural-urban clusters, such as piped water supply, waste management, and skill training. These components focus on providing basic civic infrastructure and economic livelihoods. However, the establishment of heavy, fully automated industry is not a mandatory requirement, as the mission primarily emphasizes local economic activities and agro-processing units.

21. (A) Securing an investment-grade credit rating from a recognized agency.
To attract institutional investors, a municipal corporation must demonstrate its financial stability and debt-repayment capacity. Obtaining a favorable credit rating is a critical prerequisite for issuing bonds, as it provides an independent assessment of the city's creditworthiness. This reform incentivizes local bodies to maintain transparent accounting practices and improve revenue collection to satisfy the requirements of the capital markets.

22. (A) 1, 3, 2, 4
Spatial planning in the state has evolved from traditional manual methods to advanced digital systems. The process began with conventional master plans, followed by the adoption of GIS technology for more accurate mapping. Subsequently, unified regulations were introduced to standardize norms, leading to the current integration of GIS with automated building permission systems, which represents the most modernized phase of governance.

23. (B) Madhya Pradesh Urban Development Company (MPUDC)
This specialized company acts as a nodal agency for executing large-scale and technically complex urban projects, particularly those funded by external agencies. When local municipalities lack the technical expertise to manage sophisticated water supply or sewerage systems, this entity provides the necessary engineering and management support. It ensures that critical infrastructure projects are completed according to international standards and technical specifications.

24. (C) Restricting access to municipal council resolutions under the Official Secrets Act.
Urban local bodies promote transparency through several mechanisms, including the publication of financial statements and the use of service level

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(C) Displacing all traditional local vendors to create an exclusive VIP zone.
(D) Implementing adaptive reuse and upgrading pedestrian pathways.

87. Which of the following is a correct statement regarding the Service Level Benchmarking (SLB) framework in MP cities?
(A) SLBs are used exclusively to determine the salaries of municipal commissioners.
(B) Standardized measurement of performance in delivering core civic services.
(C) The SLB framework prevents citizens from accessing municipal performance data.
(D) SLBs replace the need for statutory financial audits.

88. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): The MP Urban Development Policy promotes public-private partnerships (PPP) for large-scale infrastructure projects.
Reason (R): ULBs often lack the massive upfront capital and specialized technical expertise required for complex urban projects.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

89. What is the MOST appropriate strategy for a Madhya Pradesh city to improve its property tax collection efficiency?
What is the MOST appropriate strategy for a Madhya Pradesh city to improve its property tax collection efficiency?
(A) Reverting to a manual self-assessment system without verification.
(B) Decreasing the tax rate uniformly across all commercial properties.
(C) Outsourcing tax collection entirely to unregulated private recovery agents.
(D) Integrating the tax database with a GIS-based spatial map for identification.

90. Which of the following is an INCORRECT pair regarding MP urban institutions and their roles?
(A) MPHIDB - Regulation of air traffic over urban areas
(B) MPUDC - Implementation of external aid funded urban projects
(C) MPIDC - Industrial infrastructure and investment promotion
(D) TCP Department - Formulation of spatial development plans

91. Match the infrastructure/service (List I) with the corresponding reform or policy in MP (List II):
List I: Infrastructure/Service
P. Affordable Dwelling Units
Q. Building Plan Approval
R. Infrastructure Funding Deficit in Villages
S. Municipal Accounting
List II: Corresponding Reform or Policy
1. Critical Gap Funding (CGF)
2. Accrual-based System
3. Auto-DCR and E-permit
4. Mukhyamantri Shahari Aawas Mission
(A) P-4, Q-3, R-1, S-2
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-1, R-3, S-2
(D) P-1, Q-3, R-4, S-2

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92. The concept of "Transferable Development Rights" (TDR) is often discussed alongside Unified Development Control Regulations (UDCR) in MP.
If a ULB uses TDR for widening a major arterial road, how does this concept apply?
(A) The ULB seizes the land without any compensation to the owner.
(B) Compensating landowners with saleable development rights for surrendering land.
(C) The state transfers the road's ownership to a private toll operator.
(D) The landowner pays a tax to the ULB to prevent the road widening.

93. Under the Digital MP and urban digital services initiatives, which centralized portal acts as the unified platform for citizens to access municipal services across all ULBs in Madhya Pradesh?
(A) e-Nagar Palika
(B) MP Bhulekh
(C) Vimarsh Portal

1. Bridging the financial deficit in Rurban cluster development
2. Measuring and benchmarking civic service delivery
3. Automated compliance checking for building permissions
4. Comprehensive spatial and economic plan for a rural-urban cluster

(A) P-3, Q-4, R-2, S-1
(B) P-4, Q-3, R-1, S-2
(C) P-3, Q-2, R-4, S-1
(D) P-1, Q-4, R-2, S-3

80. Which of the following statements is INCORRECT regarding the Credit Rating of MP ULBs?
(A) It is an essential prerequisite for entering the municipal bond market.
(B) It reflects the financial health and debt-repayment capacity of the local body.
(C) A lower credit rating implies higher investor confidence and lower interest rates.
(D) The AMRUT reform agenda heavily incentivizes cities to obtain and improve their credit ratings.

81. Which of the following is a correct pair regarding state housing policies in MP?
(A) In-situ slum redevelopment - Evicting residents to the city periphery
(B) Affordable Housing Policy - Providing incentives like higher FAR to private developers
(C) Night shelters - Permanent ownership housing for high-income groups
(D) Co-operative housing - State government taking full ownership of private societies

82. Which statutory legislation primarily governs the preparation of GIS-based master plans and development control in Madhya Pradesh?
(A) Madhya Pradesh Municipal Corporation Act, 1956
(B) Madhya Pradesh Land Revenue Code, 1959
(C) Madhya Pradesh Real Estate (Regulation and Development) Rules, 2017
(D) Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973

83. The implementation of the Atal Jyoti Yojana in Madhya Pradesh cities had the most direct impact on which of the following urban infrastructure sectors?
(A) Street lighting and urban power reliability
(B) Solid waste processing
(C) Potable water distribution
(D) Storm water drainage networks

84. Consider the following statements regarding the Integrated Township Policy of MP:
Statement I: It aims to de-congest existing city centers by developing self-sustained townships on the periphery.
Statement II: The policy mandates that developers must rely entirely on the municipal corporation for internal roads and water supply within the township.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

85. Consider the following statements regarding the CMUIDS project approval process:
1. Technical sanction ensures the engineering design meets standardized codes.
2. Administrative approval is granted before project identification by the ULB.
3. The execution agency must submit a detailed project report (DPR).
4. The fund release is tied directly to the submission of Utilisation Certificates.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 1, 3, and 4
(C) 2, 3, and 4
(D) 1, 2, and 3

86. A historic precinct in Gwalior is slated for development under the state tourism infrastructure program.
Which intervention represents a case of best practice in heritage urban planning?
(A) Widening roads by demolishing heritage facades to accommodate tourist buses.
(B) Constructing a modern glass-facade shopping mall adjacent to the historic fort.

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(C) A is true but R is false.
(D) A is false but R is true.

101. Which of the following is a correct pair regarding the components of the Rurban Mission?
(A) CGF - Bridging the gap between project cost and scheme convergence
(B) Digital literacy - Critical component for agri-based clusters only
(C) Non-agri cluster - Focus exclusively on subsistence farming
(D) ICAP - State-level industrial policy document

102. An urban planner is evaluating a riverfront development proposal for a Narmada city. The proposal suggests heavily concretizing the floodplains for commercial real estate.
What is the major environmental risk associated with this case?
(A) Increased availability of affordable commercial space in central zones.
(B) Enhancement of aquatic biodiversity through controlled water flows.
(C) Reduction in the city's overall carbon footprint via modern design.
(D) Disruption of hydrological cycles and increased flood risk.

103. Match the state schemes (List I) with their target beneficiary or sector (List II) in MP:
List I: State Schemes
P. Atal Jyoti Yojana
Q. CM Awas Yojana
R. Heritage tourism circuits
S. CMUIDS
List II: Target Beneficiary or Sector
1. Urban Local Bodies requiring infrastructure funding
2. Cities with historical and cultural significance
3. Households requiring continuous street/ urban lighting power reliability
4. Citizens needing housing assistance complementing central schemes
(A) P-3, Q-4, R-2, S-1
(B) P-4, Q-3, R-1, S-2
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-2, R-4, S-1

104. Which of the following statements is INCORRECT regarding the E-permit system in MP?
(A) It provides a transparent tracking mechanism for applicants.
(B) It integrates online fee payment gateways for building permissions.
(C) It requires physical submission of multiple paper copies to the municipal office.
(D) It is fundamentally supported by the Auto-DCR engine.

105. Under the concept of "Ring-fencing" of municipal water accounts, if a ULB collects Rs. 50 Lakhs from water user charges, how must this revenue be utilized?
how must this revenue be utilized?
(A) It can be diverted to pay for road construction projects.
(B) It must be transferred to the general administrative fund to pay mayoral allowances.
(C) It must be deposited into the state treasury as a general tax.
(D) Reinvesting revenue solely into the water supply system's maintenance.

106. Which of the following districts is prominently featured in the state's heritage tourism circuits for its world-renowned group of monuments?
(A) Chhatarpur (Khajuraho)
(B) Balaghat
(C) Seoni
(D) Jhabua

107. In the context of MP's affordable housing policy, how is "EWS Housing" precisely defined?
(A) Housing reserved exclusively for Executive Working Staff of the state government.
(B) Units priced specifically for Economically Weaker Sections via state criteria.
(C) Luxury apartments constructed in ecologically sensitive zones.
(D) Temporary night shelters set up during the winter season.

108. All of the following are key focus areas of the MP Urban Development and Housing Policy EXCEPT:
(A) Ensuring environmental sustainability in urban planning.

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(B) Discouraging digital governance to maintain traditional administrative jobs.
(C) Promoting public transport and transit-oriented development.
(D) Facilitating private sector participation in housing and infrastructure.

109. Consider the following statements regarding the GIS-based Master Plan preparation in MP:
1. It utilises high-resolution satellite imagery for accurate base map creation.
2. It allows for dynamic spatial analysis and better land use zoning.
3. It entirely eliminates the need for on-ground public consultations.
4. It seamlessly integrates with the online E-permit and property tax systems.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, and 3

110. As an Assistant Town Planner, you must prepare a project report for a new working women's hostel in Indore.
Which of the following competencies is essential to ensure the project meets state policy guidelines?
(A) Designing the hostel with high-end luxury specifications to attract affluent tourists.
(B) Locating the hostel in an industrial hazardous zone to save land costs.
(C) Locating the hostel near safe transit with security infrastructure.
(D) Ensuring the hostel functions exclusively as a commercial hotel.

111. What is the MOST appropriate objective of implementing Service Level Benchmarking (SLB) in MP cities?
(A) To justify arbitrary hikes in municipal property taxes.
(B) To penalize citizens for excessive water consumption.
(C) To centralize all municipal powers into the hands of the state government.
(D) Creating an evidence-based framework to drive accountability and delivery.

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112. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): The Mukhyamantri Shahari Aawas Mission places a strong emphasis on providing land tenure security to the urban poor.
Reason (R): Secure land tenure acts as a catalyst for households to invest their own savings into incrementally upgrading their housing conditions.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

113. Which of the following is an INCORRECT pair regarding planning reforms in MP?
(A) Accrual-based accounting - Transparent recording of assets and liabilities
(B) Unified Development Control Regulations - City-specific unstructured bylaws
(C) MP Urban Observatory - Real-time data visualization and governance
(D) GIS-based Master Plan - Geospatial accuracy in land use planning

114. Which of the following is a correct statement regarding the Night Shelters for the urban homeless in MP?
(A) They are profit-making ventures managed by private real estate developers.
(B) They are exclusively reserved for inter-state tourists.
(C) They require the homeless to pay market-rate rents.
(D) Mandating basic sleeping spaces and sanitation for the destitute.

115. Match the urban reform/scheme (List I) with its core outcome (List II) in Madhya Pradesh:
List I: Urban Reform/Scheme
P. CMUIDS
Q. Auto-DCR
R. AMRUT Reforms
S. RURBAN Mission
List II: Core Outcome
1. Elimination of manual errors in building

plan scrutiny
2. Improvement in municipal credit ratings and water audits
3. Bridging of core civic infrastructure gaps across all ULBs
4. Countering rural-to-urban migration by providing urban amenities in rural clusters

(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-1, S-2
(D) P-3, Q-4, R-2, S-1

116. Consider the following statements regarding Co-operative housing societies in MP:
Statement I: The state policy encourages cooperative housing to leverage collective capital for land acquisition and development.
Statement II: Cooperative housing societies are completely exempt from adhering to the Unified Development Control Regulations (UDCR).
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

117. Which specific reform focuses on evaluating the balance between the quantum of water produced at the treatment plant and the quantum of water actually billed to consumers in MP cities?
(A) Water Audit
(B) Ring-fencing
(C) Accrual Accounting
(D) Auto-DCR

118. In a newly identified Rurban cluster in MP, the local economy is dominated by dairy farming. Applying the concept of an agri-based cluster, what is the most strategic intervention for the Integrated Cluster Action Plan (ICAP)?
(A) Shutting down dairy farms to construct an IT park.
(B) Promoting heavy chemical industries in the dairy zones.
(C) Focusing exclusively on providing broadband internet without addressing dairy infrastructure.
(D) Developing veterinary infrastructure, milk chilling centers, and cooperative market linkages.

119. Which dedicated entity in Madhya Pradesh acts as the nodal agency for implementing various state and central housing schemes, including undertaking the physical construction of affordable housing units?
(A) Madhya Pradesh Urban Development Company
(B) MP Housing and Infrastructure Development Board
(C) Town and Country Planning (TCP) Department
(D) Madhya Pradesh State Tourism Development Corporation

120. When applying the "population-based fund allocation formula" under the CMUIDS framework, what is the primary consequence for urban planning at the state level?
(A) All ULBs receive an identical flat amount regardless of their size.
(B) Only rural Gram Panchayats receive the funding.
(C) Proportionately larger fund shares for cities with higher infrastructure demand.
(D) Funds are allocated purely on a random lottery basis.

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(D) MP Tenders

94. How is "In-situ slum redevelopment" defined in the context of MP state housing policies?
(A) Relocating slum dwellers to rural areas outside the city limits.
(B) Demolishing slums and converting the land into exclusive commercial centers.
(C) Rebuilding housing for slum dwellers on the same land they occupy.
(D) Providing financial compensation to slum dwellers to find their own housing.

95. All of the following are essential components of an Integrated Cluster Action Plan (ICAP) under the Rurban Mission EXCEPT:
(A) Spatial planning of the cluster.
(B) Economic development strategy and livelihood mapping.
(C) Convergence matrix of various government schemes.
(D) Detailed blueprint for establishing a metropolitan mass transit railway.

96. A Town Planner is analyzing a proposal for a new Integrated Township near Jabalpur.
According to MP's Integrated Township Policy, which of the following is the most critical competency the planner must demonstrate during the review?
(A) Ensuring the developer has maximized residential plotting by eliminating all open spaces.
(B) Confirming that the township relies entirely on existing, already overloaded municipal utilities.
(C) Verifying that trunk infrastructure is fully provisioned by the developer.
(D) Mandating that only HIG housing is constructed to boost municipal tax revenue.

97. Consider the following statements regarding the regularisation of unauthorised colonies in MP:
1. It mandates the structural safety assessment of existing buildings.
2. It requires the payment of development charges by the residents.
3. The process is completely automated and requires no layout planning.
4. Civic amenities like water supply and roads are developed post-regularisation.

Which of the statements given above are correct?
(A) 1, 2, and 4
(B) 2, 3, and 4
(C) 1, 3, and 4
(D) 1, 2, and 3

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98. Which institution is explicitly responsible for managing the state-level public disclosure and transparency portals for urban local bodies in Madhya Pradesh?
(A) Department of Public Relations
(B) Madhya Pradesh State Election Commission
(C) Ministry of Rural Development
(D) Urban Development and Housing Department (UDHD)

99. Consider the following statements regarding the CMUIDS project execution mechanism:
Statement I: ULBs are empowered to execute smaller infrastructure projects directly under CMUIDS.
Statement II: MPUDC is usually roped in as an execution agency for highly technical or large-scale projects that exceed the ULB's internal capacity.
Which of the following is correct?
(A) Both Statement I and Statement II are correct.
(B) Both Statement I and Statement II are incorrect.
(C) Statement I is correct and Statement II is incorrect.
(D) Statement I is incorrect and Statement II is correct.

100. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R).
Assertion (A): The implementation of Auto-DCR in MP cities has significantly reduced the time taken for issuing building permissions.
Reason (R): Auto-DCR eliminates subjective human interpretation of building bylaws by algorithmically checking CAD drawings against the UDCR.
In the context of the two statements, which one of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.

and community parks. Using these funds for recurring administrative expenses like municipal salaries or staff pensions is prohibited to ensure that the capital is utilized solely for long-term assets.

9. (D) E-permit - Online system for automated building plan approval and permission
Modernizing urban governance involves digitizing administrative processes to improve efficiency and transparency. This online system allows for the automated scrutiny of building plans against existing regulations, significantly reducing human interface and processing time. Unlike manual systems, it ensures that permissions are granted based on standardized algorithmic checks, thereby facilitating a more business-friendly environment and streamlined urban planning across various municipal corporations.

10. (B) 2, 1, 4, 3
Project execution follows a logical sequence starting with the identification of specific local needs by the urban local body. Once identified, projects receive administrative approval before moving to the technical sanction stage to ensure engineering feasibility. Finally, the project moves into the execution and monitoring phase, where progress is tracked to ensure the timely completion and quality of the infrastructural work.

11. (B) It functions exclusively as a regulatory body and does not undertake actual construction projects.
This state-level agency is a primary developer responsible for the physical construction of housing units and commercial infrastructure. It executes projects catering to diverse economic groups, ranging from economically weaker sections to high-income categories. Furthermore, the board acts as a nodal agency for implementing large-scale central and state housing missions, demonstrating its active role in the construction sector.

12. (B) The ULB level process must identify specific projects based on local needs and submit them for technical sanction.
Local bodies are empowered to initiate development by identifying projects that address their unique civic requirements. This bottom-up approach ensures that infrastructure improvements are relevant to the community. Once a project is identified at the municipal level, it must undergo technical scrutiny to confirm its engineering soundness before funds are released, maintaining a balance between local autonomy and technical standards.

13. (B) 1, 3, and 4
The mission stimulates local economic development by providing essential services and well-planned spatial layouts for rural-urban clusters. It utilizes comprehensive action plans to map economic potential and identifies infrastructure gaps that require specific funding. Although agricultural clusters are a core focus, the mission uses critical gap funding to bridge financial shortfalls after converging various existing government schemes and development programs.

14. (C) Madhya Pradesh Urban Observatory
This centralized platform was established to collect, analyze, and visualize data related to various urban indicators across the state. It serves as a vital tool for evidence-based governance, allowing policymakers to monitor the performance of municipal services and track progress in infrastructure development. By consolidating data, it enables better planning and more informed decision-making for sustainable urban growth and management.

15. (D) Converging existing schemes with required Critical Gap Funding.
Ensuring the financial viability of cluster development requires the strategic integration of multiple government programs. Planners must first leverage funds from various existing central and state schemes to cover project costs. Critical gap funding is then utilized to bridge any remaining financial shortfalls. This convergence approach maximizes resource efficiency and ensures that comprehensive infrastructure projects are fully funded and sustainable.

16. (A) Both A and R are true and R is the correct explanation of A.
The state has implemented a single set of building regulations to standardize planning norms across all urban areas. This uniformity

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ANSWERS

1. (B) 1, 3, and 4
The policy focuses on enhancing urban infrastructure through public-private partnerships while implementing unified development control regulations statewide for standardized growth. It emphasizes modern amenities like energy-efficient lighting and integrated waste management to ensure sustainable cities. However, the policy does not completely restrict colony regularisation; instead, it provides a structured framework for the legalisation of existing unauthorized settlements under specific guidelines.

2. (D) Sanchi
Development initiatives in the state focus on integrating unique architectural styles into the broader tourism network. This specific location is internationally recognized for its historic Buddhist monuments and serves as a major hub within the heritage tourism circuit. Infrastructure projects here prioritize the preservation of stupas and monasteries while enhancing visitor facilities to promote cultural tourism and architectural heritage within the urban landscape.

3. (A) Ensuring continuous power and upgraded urban street lighting.
This scheme focuses on providing reliable electricity supply to ensure that city streets and public spaces remain well-illuminated and safe. By upgrading the power distribution infrastructure, it supports the modernization of urban lighting systems across the state. The initiative plays a vital role in improving urban safety and enhancing the overall quality of civic amenities for the resident population.

4. (C) A is true but R is false.
The Integrated Township Policy actively encourages private participation to develop essential trunk infrastructure like roads and water systems within new developments. However, the state government possesses clear statutory authority to acquire land for urban development under specific legislation. Therefore, while the policy incentivizes developers to build infrastructure, the claim that the government lacks the power to acquire land is incorrect.

5. (A) Contiguous village areas with 25,000–50,000 population and growth potential.
These clusters are designated areas comprising geographically connected villages that exhibit significant potential for economic growth and urban transformation. The mission targets clusters within specific population thresholds to ensure they can sustain modern urban amenities and economic activities. By focusing on these defined areas, the mission aims to bridge the rural-urban divide through planned spatial and economic development.

6. (D) Statement I is incorrect and Statement II is correct.
The infrastructure development scheme is designed to cover a wide range of urban local bodies across the state, not just the largest cities. Funding is distributed using a population-based formula to ensure that resources are allocated proportionately to the needs of different towns. This approach allows smaller municipalities to access necessary capital for improving local civic services and bridging infrastructure gaps.

7. (A) P-4, Q-2, R-3, S-1
Various housing missions in the state target different segments of the population to ensure habitat improvement and affordability. While some programs focus on rural habitat finance and subsidies, others prioritize in-situ upgrades for the urban poor. Additionally, the state uses incentive frameworks for private developers and heavy subsidies for the lowest income quartile to achieve comprehensive coverage in residential development.

8. (C) Payment of outstanding salaries and pensions of municipal staff.
The infrastructure development scheme provides funds strictly for physical capital projects that enhance civic amenities in urban areas. Eligible works typically include the construction of roads, drainage systems, water supply networks,

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benchmarking. Citizen charters are also utilized to ensure time-bound service delivery. Restricting public access to council resolutions is contrary to these transparency reforms, as open access to governance data and official decisions is essential for ensuring accountability and citizen trust.

25. (B) 1, 3, and 4
This statutory body serves a social mandate by developing various types of affordable housing and social infrastructure. It executes projects such as in-situ slum redevelopment, night shelters for the destitute, and residential facilities for students and working professionals. Unlike a purely private developer, its primary goal is to provide essential habitat solutions and support state housing missions for diverse societal segments.

26. (A) It reads CAD drawings for automated building bylaws compliance.
The automated approval system utilizes advanced software to scrutinize digital architectural drawings against established urban building regulations. This technology eliminates the subjectivity of manual inspections by algorithmically checking parameters like floor area ratio, setbacks, and ground coverage. By providing an objective and rapid assessment, the system significantly reduces the time required for citizens to obtain official building permits and permissions.

27. (B) Standardized measurement of performance in delivering civic services.
This framework involves the systematic tracking of key performance indicators related to water supply, sewerage, waste management, and drainage. By using standardized benchmarks, urban local bodies can objectively evaluate their efficiency and identify areas for improvement. This data-driven approach allows for better accountability and helps cities communicate their service performance levels to citizens, ultimately driving improvements in civic infrastructure.

28. (A) Both A and R are true and R is the correct explanation of A.
Issuing municipal bonds requires local bodies to adopt rigorous financial discipline and transparent accounting methods. Investors demand clear information regarding assets, liabilities, and revenue streams to assess the risk of their investment. Therefore, the transition to accrual-based accounting is essential for cities to establish the creditworthiness necessary to access private capital markets for funding large-scale infrastructure projects.

29. (A) Khajuraho, Sanchi, Orchha, Ujjain
The heritage tourism circuit focuses on cities that possess significant cultural, historical, and architectural value. This specific group includes sites famous for their ancient temples, Buddhist stupas, medieval forts, and religious significance. State policies prioritize the development of tourism-related infrastructure in these locations to preserve their unique heritage while enhancing the experience for international and domestic visitors through improved amenities.

30. (C) Granting extra FAR to cross-subsidize free housing using land resources.
To make slum redevelopment financially feasible, the state utilizes land as a resource by allowing developers higher floor area ratios. This extra development potential on part of the site can be sold commercially, generating the funds necessary to provide free or highly subsidized housing for the existing residents. This cross-subsidization model avoids heavy state spending while ensuring improved living conditions.

31. (A) P-4, Q-3, R-2, S-1
Digital and financial reforms lead to specific improvements in urban management. Automated permits reduce corruption, while GIS-based plans ensure spatial accuracy in land use. Urban observatories provide data for informed policy making, and ring-fencing ensures that service-specific revenues are reinvested appropriately. These outcomes collectively contribute to more efficient, transparent, and financially sustainable municipal governance, ensuring that infrastructure development is based on accurate data.

32. (C) Mandatory acquisition of tribal agricultural lands for luxury villas.
State missions for the urban poor utilize strategies like construction subsidies for beneficiaries and partnerships with private developers for low-cost units. They also facilitate credit-linked interest subsidies to improve housing affordability. The

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mandatory acquisition of tribal lands for high-end luxury housing is not a strategy of these missions, as their primary objective is to provide secure and affordable habitat for marginalized populations.

33. (D) Statement I is incorrect and Statement II is correct.
Funding for infrastructure projects is released in installments based on the actual progress of the work. To receive subsequent payments, executing agencies must submit certificates proving the proper utilization of previous funds and undergo quality inspections. This installment-based mechanism ensures that state capital is used efficiently and that projects are completed according to the approved technical designs and quality standards.

34. (B) 1, 2, 3, 4
The mission follows a structured planning process starting with the selection of a cluster based on demographic data. Once selected, a comprehensive action plan is prepared to identify specific infrastructure needs. This plan must be approved to secure the necessary gap funding. Finally, the project moves into the implementation phase, where various government programs are converged to execute the planned developments.

35. (A) It acts as the primary regulatory body for finalizing municipal property tax rates across MP.
This corporation is primarily responsible for the development of industrial parks, investment corridors, and specialized infrastructure for businesses. It works to facilitate the ease of doing business and provides essential services like roads and power to industrial areas. Setting municipal property tax rates is a function of the urban local bodies and the state's urban department, not this industrial corporation.

36. (C) Smart Metering - Reduction of AT&C (Aggregate Technical and Commercial) losses in cities
Infrastructure reforms in the power sector focus on improving distribution efficiency through technological interventions. Implementing smart meters allows for real-time monitoring of electricity consumption and reduces losses associated with billing errors or unauthorized usage. This ensures a more reliable power supply for urban residents while improving the financial health of distribution companies by ensuring that all electricity delivered is accurately measured.

37. (B) 2, 3, and 4
The infrastructure scheme aims to bridge civic gaps through local project identification and regular quality monitoring. It allows for the convergence of various funding sources to maximize the impact on municipal amenities. While the state provides the framework and funds, the projects are identified based on local needs rather than being an exclusive central government mandate, ensuring responsiveness to specific town requirements.

38. (D) Balancing water supplied and billed to identify non-revenue losses.
Water audits are essential for managing municipal water supply efficiency by comparing the total volume of water produced with the volume that is actually billed to consumers. This process helps identify physical leakages in the distribution network and commercial losses due to unauthorized connections. By pinpointing these discrepancies, urban local bodies can take corrective actions to reduce waste and improve revenue.

39. (B) Developing pedestrianized heritage corridors, upgrading solid waste management, and establishing decentralized parking zones.
Sustainable tourism planning in historic cities focuses on preserving cultural heritage while improving urban mobility and sanitation. Interventions like creating pedestrian zones and better waste management systems help manage tourist crowds without damaging the city's historical character. These upgrades provide a better experience for visitors and residents alike, ensuring that the influx of pilgrims does not lead to environmental degradation.

40. (A) Both A and R are true and R is the correct explanation of A.
The use of geospatial technology for tax assessment allows municipalities to accurately map and measure every property within their jurisdiction. By comparing these maps with existing tax records, cities can identify buildings that were previously unassessed or under-reported. This data-driven approach

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ensures a fairer distribution of the tax burden and significantly boosts municipal revenue by capturing the full extent of built-up areas.

41. (D) Co-operative housing - State-owned rental housing for government employees
Housing initiatives include temporary night shelters for the destitute and hostels for working women to ensure safety and affordability. State schemes also provide supplements to central missions for wider reach. Cooperative housing involves groups of citizens coming together to build or manage their own homes through shared capital and is not a state-owned rental program specifically for government employees.

42. (A) Technical sanction, inspection reports, and Utilisation Certificates.
The final release of funds for infrastructure projects is contingent upon proving that the work was completed according to approved standards. Monitoring officials must review technical sanctions to verify the original design and inspection reports to ensure the quality of construction. Additionally, certificates confirming the proper expenditure of previous funds are legally required to maintain accountability in the use of state capital.

43. (A) P-2, Q-1, R-4, S-3
The mission classifies clusters based on their economic potential and demographic characteristics to tailor development strategies. While some clusters focus on agro-processing and value chains, others emphasize manufacturing or services. Financial viability is maintained through gap funding after scheme convergence, while spatial criteria like village contiguity ensure that the clusters are logically defined for effective planning and infrastructure delivery.

44. (B) Ensuring convergence of CMUIDS funds with national missions like Swachh Bharat Mission (SBM) or AMRUT.
Large-scale infrastructure projects often require more capital than a single state scheme can provide. Strategic planners overcome these funding limitations by synergizing resources from various central and state programs. By combining funds from multiple missions, a municipality can secure the total budget needed for complex facilities like sewage treatment plants, ensuring that projects are not stalled due to financial constraints.

45. (A) Reinvesting utility revenues solely back into that specific service.
This reform involves the accounting separation of revenues generated by a particular civic service, such as water supply. By ensuring that user charges collected for water are used only for the maintenance and expansion of the water system, municipalities can achieve financial sustainability for that utility. This prevents the diversion of funds to unrelated expenses and ensures long-term service reliability.

46. (A) 1, 2, 3, 4
The digital permission process starts with an architect submitting drawings online, followed by an automated compliance check against building regulations. Once the plan passes scrutiny, the applicant pays the required fees through a digital gateway. The final step is the electronic issuance of the certificate. This sequential workflow ensures a transparent, standardized, and rapid approval process that minimizes delays and manual intervention.

47. (D) Migrants and urban poor who are unable to afford homeownership.
Rental housing programs address the needs of the mobile urban population and those who lack the capital for permanent homeownership. By providing secure and affordable rental options, the state supports migrants who move to cities for employment. This strategy is essential for reducing the growth of unplanned slums and ensuring that low-income workers have access to basic shelter and sanitation.

48. (C) Establishment of a state-level legislative assembly building.
Desirable components of the mission focus on improving rural-urban clusters through digital connectivity, skill development, and better educational facilities. These interventions are aimed at stimulating local economies and providing urban-like amenities to rural residents. The construction of major state-level administrative buildings is not a component of this mission, as it focuses on cluster-level infrastructure rather than centralized state facilities.

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housing for lower-income groups and provide their own internal infrastructure. Nationalizing private companies is not part of this policy; instead, it uses a regulatory framework to guide private developers toward creating high-quality, sustainable, and inclusive urban spaces on city peripheries.

66. (D) Statement I is incorrect and Statement II is correct.
The state has moved away from disjointed city-specific bylaws toward a unified set of regulations that apply across all urban areas. This standardization is crucial for the successful implementation of automated building permission systems. By providing consistent rules for parameters like setbacks and floor area, the government creates a predictable environment for development and ensures that urban planning norms are applied uniformly statewide.

67. (A) P-1, Q-3, R-2, S-4
Major cities in the state are recognized for distinct development achievements and heritage characteristics. While some lead in waste management and digital tax systems, others are hubs for religious or Buddhist heritage tourism. Additionally, the state capital serves as the center for urban data monitoring and smart city command. These diverse roles highlight how different cities contribute uniquely to the state's overall urban and cultural development.

68. (C) Creating a data repository to track evidence-based service benchmarks.
The observatory functions as a centralized hub for gathering and analyzing urban data to improve governance and policy making. It tracks key performance indicators and service benchmarks across cities, providing an objective basis for evaluating municipal performance. This evidence-based approach helps officials identify infrastructure gaps and monitor the effectiveness of various urban interventions, leading to more targeted and efficient urban development strategies.

69. (A) Town and Country Planning (TCP) Department
This specialized department is responsible for the overall spatial planning and land use management in the state. It leads the initiative to modernize master plans by using geographic information systems for greater accuracy and better zoning. By driving the transition to digital mapping, the department ensures that urban expansion is well-regulated and based on a scientific understanding of geographic and demographic data.

70. (D) Smart City Mission - 100% funded by urban local body revenues
Funding for major urban missions typically involve a mix of central assistance, state contributions, and local funds. The smart city initiative, like other large-scale programs, relies on significant grants from both the central and state governments to supplement municipal resources. Relying entirely on local revenue would be insufficient for the high-cost technological and infrastructural interventions required by these modern urban development missions.

71. (B) Developing skill centers and market linkages tailored to NTFP processing.
In clusters with specific natural resources, development plans focus on leveraging local strengths to improve livelihoods. For a region rich in forest produce, the mission prioritizes setting up units for processing these materials and creating better connections to buyers. This strategy ensures that local communities can move up the value chain, creating jobs and increasing income without disrupting the region's existing economic and environmental base.

72. (C) It provides financial aid and institutional credit for rural households.
This rural-focused mission aims to improve housing conditions by offering financial assistance and facilitating access to loans for families in village areas. It supports the construction of new homes and the upgrading of existing ones to ensure safe and hygienic living environments. By providing these resources, the mission helps rural residents achieve permanent habitat security and reduces the pressures that drive unplanned migration to cities.

73. (A) 1, 2, and 4
Housing schemes for the economically weaker sections utilize strict income criteria to identify beneficiaries and often employ cross-subsidization to maintain affordability. The state housing board is the main agency responsible for

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57. (D) Jabalpur
Riverfront development in this city focuses on the rejuvenation of the river banks through ecological restoration and the creation of public recreational zones. The project aims to improve the environmental health of the waterway while providing modern urban amenities. By integrating the river into the city's urban fabric, the state enhances both the aesthetic and functional value of the metropolitan area.

58. (A) 1, 2, 3, 4
Preparing a GIS-based master plan is a technical process that starts with acquiring satellite imagery to create precise base maps. Planners then map existing land use and conduct surveys to understand demographic needs. These datasets are used to project future demands and finalize the zoning regulations. This evidence-based approach ensures that the master plan is accurate and responsive to the city's growth.

59. (B) It exclusively applicable to high-income group (HIG) housing projects.
The state housing mission is designed to provide financial assistance and affordable habitat solutions specifically for the low-income and economically weaker segments of society. It complements central missions to ensure that the goal of 'Housing for All' is achieved. Contrary to focusing on high-income groups, its primary mandate is to improve the living conditions and housing security of the urban and rural poor.

60. (B) Withhold the Utilisation Certificate and mandate rectification of the work.
When construction deviates from sanctioned technical specifications, regulatory officials must intervene to ensure the project's integrity and safety. Withholding certificates prevents the release of further payments until the contractor corrects the defects. This rigorous monitoring ensures that public funds are spent on infrastructure that meets engineering standards and serves the intended purpose, maintaining the overall quality of urban development projects.

61. (B) 1, 2, and 4
The reform agenda mandates professional financial practices, such as accrual-based accounting and obtaining credit ratings to access capital markets. It also requires cities to conduct audits for water and energy to improve efficiency. While the goal is to improve services for the poor, it does not involve the complete abolition of user charges, as these are necessary for the sustainable maintenance of utilities.

62. (C) CMUIDS - Pan-state urban infrastructure deficit bridging
The state infrastructure scheme is a comprehensive program aimed at addressing civic deficiencies across all urban local bodies. It provides the necessary funding for essential projects like roads, drains, and water supply to ensure a minimum standard of amenities statewide. Unlike city-specific or specialized projects, this initiative provides a broad framework for infrastructural development that benefits various municipal categories throughout the state.

63. (D) MP Housing and Infrastructure Development Board
This statutory body is the primary agency responsible for the physical construction and management of affordable housing units under state and central missions. It leverages its technical expertise and land resources to develop residential colonies that cater to diverse income groups. By acting as the construction arm of the state's housing policy, it ensures the systematic delivery of habitat solutions for the urban population.

64. (A) Both A and R are true and R is the correct explanation of A.
Classifying clusters based on their economic base allows for specialized planning that targets the specific strengths of a region. Clusters with agricultural potential focus on value-chain development, while those with industrial or service potential focus on different infrastructure needs. This tailored approach ensures that economic interventions are effective and that the spatial planning aligns with the local livelihood patterns and resource availability.

65. (B) Mandating the nationalization of all private real estate development companies.
The township policy aims to promote planned urban settlements by encouraging private investment and self-contained developments. It ensures that new townships include affordable

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developers to build more on a site, making it economically viable for them to offer units at lower prices. This partnership approach leverages private sector efficiency to help the state meet its housing targets for lower-income urban residents.

82. (D) Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973
This landmark legislation provides the statutory framework for all urban planning and land development activities in the state. it governs the preparation of master plans, the regulation of land use, and the establishment of planning authorities. By operating under this act, the government ensures that urban growth is controlled and that new developments, including digital master plans, are legally grounded in a comprehensive planning system.

83. (A) Street lighting and urban power reliability
This initiative primarily targets the reliability of power supply to ensure that essential urban services, particularly street lighting, are consistently maintained. By strengthening the electricity distribution network, the scheme enhances public safety and improves the quality of nightlife in urban areas. Reliable power is a fundamental requirement for modern cities, and this scheme ensures that municipal lighting systems operate effectively without frequent interruptions.

84. (C) Statement I is correct and Statement II is incorrect.
The township policy is designed to reduce the pressure on crowded city centers by promoting new, self-sustained settlements on the outskirts. These townships are expected to provide their own internal infrastructure rather than burdening existing municipal services. Developers are responsible for building their own road networks and water supply systems within the township boundaries, ensuring that the new developments are independent and well-serviced from the start.

85. (B) 1, 3, and 4
The project approval process follows a strict hierarchy starting with the submission of a detailed report by the executing agency. Technical sanctions are then required to ensure the design is sound and compliant with engineering codes. Funding is released in stages, with subsequent payments linked to the submission of certificates proving the proper use of previous funds. This system ensures that all projects are technically feasible and financially accountable.

86. (D) Implementing adaptive reuse and upgrading pedestrian pathways.
Best practices in heritage planning focus on preserving the historical essence of a city while making it functional for modern use. Adaptive reuse allows old buildings to be repurposed for new functions like museums or cafes, while upgraded pedestrian paths improve access for tourists without damaging the historic fabric. These interventions balance conservation with development, ensuring that heritage sites remain vibrant and accessible while protecting their cultural value.

87. (B) Standardized measurement of performance in delivering core civic services.
This framework involves the systematic tracking of key performance indicators related to water supply, sewerage, waste management, and drainage. By using standardized benchmarks, urban local bodies can objectively evaluate their efficiency and identify areas for improvement. This data-driven approach allows for better accountability and helps cities communicate their service performance levels to citizens, ultimately driving improvements in civic infrastructure across all municipal corporations in the state.

88. (A) Both A and R are true and R is the correct explanation of A.
Urban local bodies often face challenges in funding and managing complex infrastructure projects like metro systems or large treatment plants. By partnering with the private sector, the government can access the necessary capital and specialized engineering expertise. This approach allows for the timely delivery of high-quality urban services while sharing risks and responsibilities between the public and private entities, ensuring more sustainable development.

89. (D) Integrating the tax database with a GIS-based spatial map for identification.
Modernizing property tax collection involves using geospatial technology to accurately map every building and its usage. By linking these

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building these units. While the goal is to provide quality housing, the units are designed within specific size and cost limits that are appropriate for this economic category rather than following larger luxury standards.

74. (A) The year the bill was issued and revenue earned (FY 2022-23).
This modern accounting system records financial events based on when they occur rather than when cash changes hands. When a municipality issues a tax bill, the revenue is considered earned and is recorded in that financial year's ledger. This approach provides a more accurate representation of the entity's financial health, outstanding dues, and future income obligations.

75. (B) Structuring a financial convergence plan using AMRUT or special grants.
Effective project management in challenging terrains requires the ability to leverage additional financial resources when standard allocations are insufficient. Planners must seek to integrate funds from different missions or request specialized grants to cover the extra costs of difficult construction. This competency in financial convergence ensures that essential services like water supply are delivered even in areas where the physical environment increases the project's complexity.

76. (A) Both A and R are true and R is the correct explanation of A.
Granting legal status to unauthorized colonies must be accompanied by the provision of essential services like clean water and proper drainage. Legal title alone does not solve the health and environmental problems caused by unplanned growth. By mandating infrastructure development alongside regularisation, the state ensures that these settlements become sustainable living areas that do not negatively impact the overall urban sanitation and public health.

77. (A) Software for automated building plan scrutiny against standard bylaws.
This technological tool is designed to automate the process of checking architectural plans for compliance with urban development regulations. It uses algorithms to verify that a proposed building meets all required norms for safety, setbacks, and density. By removing the need for manual review of every detail, the system speeds up the approval process and ensures that rules are applied objectively and consistently across all projects.

78. (C) Excessive availability of unlimited unassigned funds, leading to wasteful expenditure.
Implementing the mission involves challenges like coordinating between different government departments and overcoming technical capacity gaps at the local level. Additionally, preparing complex integrated action plans can take significant time. However, a surplus of unlimited funds is not a common challenge; rather, the difficulty lies in strategically converging limited resources from various schemes to ensure that all planned infrastructure components are fully funded.

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79. (A) P-3, Q-4, R-2, S-1
Municipal governance utilizes various tools to improve efficiency and planning. Automated systems handle building permissions, while integrated action plans provide the blueprint for cluster development. Service benchmarking allows cities to track their performance in providing amenities, and gap funding ensures that cluster projects are financially viable. Together, these instruments create a professional framework for managing urban growth and ensuring that civic services meet established quality standards.

80. (C) A lower credit rating implies higher investor confidence and lower interest rates.
Credit ratings are vital for assessing the financial health and reliability of a municipal body. A higher rating indicates that the city is financially stable and capable of repaying its debts, which attracts investors and leads to lower interest rates on bonds. Conversely, a lower rating suggests higher risk, making it more difficult and expensive for a city to borrow capital for large-scale urban infrastructure projects.

81. (B) Affordable Housing Policy - Providing incentives like higher FAR to private developers
To increase the supply of low-cost housing, the state uses policies that incentivize private companies to build affordable units. By granting higher floor area ratios, the government allows

97. (A) 1, 2, and 4
The process of regularizing unauthorized settlements involves assessing the safety of existing buildings and requiring residents to pay for the development of necessary infrastructure. Once regularized, the local body takes over the provision of civic amenities like water and roads. This structured approach ensures that unplanned areas are safely integrated into the formal city grid while ensuring that the costs of development are shared fairly.

98. (D) Urban Development and Housing Department (UDHD)
This department acts as the apex administrative body for all urban affairs in the state, including the management of transparency and disclosure systems. It ensures that municipal data, financial reports, and council decisions are accessible to the public through centralized online portals. By overseeing these platforms, the department promotes accountability in urban governance and ensures that citizens can stay informed about the performance and decisions of their local bodies.

99. (A) Both Statement I and Statement II are correct.
The state employs a tiered approach to infrastructure project implementation. While local municipalities handle smaller, routine works that fall within their technical capacity, more complex and large-scale projects are managed by a specialized state company. This ensures that sophisticated engineering projects, such as regional water supply systems, are executed with the necessary professional expertise while still allowing for local participation in smaller-scale civic improvements.

100. (A) Both A and R are true and R is the correct explanation of A.
The adoption of automated scrutiny software has revolutionized the building permission process by providing instant checks against urban regulations. By using algorithms to evaluate architectural drawings, the system eliminates the inconsistencies and delays often associated with manual reviews. This objective approach speeds up the approval timeline for citizens and ensures that all construction projects are evaluated against a standardized set of rules, promoting efficiency and transparency.

101. (A) CGF - Bridging the gap between project cost and scheme convergence
Developing rural-urban clusters requires a strategic financial approach where multiple government programs are first combined to fund the necessary infrastructure. When these converged funds are not enough to cover the total project cost, specialized gap funding is provided to ensure the plan can be fully executed. This financial mechanism is essential for ensuring that comprehensive cluster development projects are not stalled due to a lack of resources.

102. (D) Disruption of hydrological cycles and increased flood risk.
Concretizing the natural floodplains of a river for commercial development can have severe environmental consequences. It prevents the ground from absorbing excess water and alters the river's natural flow, significantly increasing the danger of flooding during heavy rains. Sustainable riverfront planning must prioritize ecological health and natural drainage over commercial expansion to protect the city from water-related disasters and preserve the local hydrological balance.

103. (A) P-3, Q-4, R-2, S-1
State schemes target various sectors to ensure comprehensive urban development. Reliability in power and lighting is addressed through specific energy programs, while housing assistance is provided to complement central missions. Infrastructure funding for municipalities is managed through dedicated state schemes, and cultural heritage is promoted through specialized tourism circuits. These diverse initiatives work together to improve the quality of life, economic potential, and infrastructure standards across the state.

104. (C) It requires physical submission of multiple paper copies to the municipal office.
The modern building permission system is designed to be entirely digital, allowing applicants to submit all necessary documents and drawings online. It integrates automated scrutiny and payment gateways to provide a transparent and efficient service. By eliminating the need for physical paperwork and manual submissions, the system reduces administrative burden and

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maps with the tax database, the municipality can easily identify properties that are currently not paying taxes or are being under-billed. this scientific method eliminates human error and increases revenue by ensuring that the tax records reflect the actual physical reality of the city's built environment.

90. (A) MPHIDB - Regulation of air traffic over urban areas
The primary responsibility of this institution involves the development of housing and infrastructure projects to meet urban residential needs. It focuses on residential colonies, commercial spaces, and slum redevelopment rather than aviation or air traffic control. Other departments and corporations in the state manage specialized functions like industrial promotion, spatial planning, and large-scale urban infrastructure project implementation to ensure a well-coordinated approach to urban growth.

91. (A) P-4, Q-3, R-1, S-2
Urban governance is improved through specialized policies and modern systems. Affordable housing is delivered through state missions, while building permissions are streamlined using automated digital tools. Financial gaps in rural-urban clusters are addressed with specific funding mechanisms, and municipal finances are made transparent through accrual-based accounting. Together, these reforms ensure that urban services are efficient, projects are well-funded, and municipal administration is professional and accountable.

92. (B) Compensating landowners with saleable development rights for surrendering land.
This concept allows the government to acquire land for public purposes, such as road widening, without large cash payouts. Instead, landowners are given certificates that grant them additional building rights which they can use on another plot or sell to developers. This market-based mechanism facilitates urban infrastructure expansion while providing fair compensation to owners and encouraging higher-density development in other designated areas of the city.

93. (A) e-Nagar Palika
This unified digital portal serves as the primary interface for citizens to interact with all urban local bodies in the state. It allows for the seamless online payment of taxes, application for various licenses, and tracking of municipal services from a single platform. By centralizing these functions, the state improves transparency and ensures that urban residents have easy and consistent access to civic governance.

94. (C) Rebuilding housing for slum dwellers on the same land they occupy.
This approach to slum improvement focuses on providing permanent housing for residents without displacing them from their existing social and economic networks. By redeveloping the slum site with high-density buildings, the state can provide modern homes with proper sanitation and utilities on the same land. This strategy avoids the social disruption of relocation and ensures that the urban poor remain integrated within the city.

95. (D) Detailed blueprint for establishing a metropolitan mass transit railway.
The action plans for rural-urban clusters focus on spatial planning, economic strategies, and the convergence of various government schemes to improve local amenities. These plans are designed to stimulate the local economy and provide basic urban-like services to the cluster population. Large-scale metropolitan projects like mass transit systems are outside the scope of these plans, which prioritize local infrastructure and livelihood development within the designated clusters.

96. (C) Verifying that trunk infrastructure is fully provisioned by the developer.
In reviewing proposals for new townships, planners must ensure that the development is self-sufficient in terms of essential services. It is critical to verify that the private developer has made adequate plans for major roads, water supply, and power within the township limits. This prevents the new settlement from putting additional strain on the already overloaded municipal networks and ensures a high quality of life for the residents.

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49. (A) 1, 2, and 4
Regularisation policies aim to formalize unplanned settlements by integrating them into the municipal grid and ensuring minimum planning standards are met retrospectively. Residents participate through welfare associations and are required to pay development charges to fund infrastructure. This process improves the legal status and living conditions of the inhabitants, ensuring they have access to organized water supply, roads, and sanitation services.

50. (C) Statement I is correct and Statement II is incorrect.
The mission's success depends on the effective convergence of multiple central and state programs to fund cluster development. This strategy allows the mission to leverage existing resources from schemes like MGNREGA or rural road programs. Far from prohibiting their use, the mission actively encourages the integration of these funds into the action plan to ensure comprehensive development without duplicating administrative efforts.

51. (A) Providing seamless online citizen services via e-Nagar Palika portals.
Digital initiatives aim to simplify the interaction between citizens and the government by offering a wide range of municipal services online. Through a unified portal, residents can pay taxes, apply for permissions, and access various certificates without visiting government offices. This transformation improves transparency, reduces administrative delays, and ensures that urban governance is more accessible and responsive to the needs of the population.

52. (C) A is true but R is false.
Using a population-based formula is a standard method for ensuring that funds are distributed objectively and proportionately to the size of the urban area. However, this does not mean the specific needs of smaller towns are ignored; instead, the formula provides a predictable base for allocation. Smaller towns still receive funds designed to address their deficits within the overarching state development framework.

53. (A) Recognizing revenues when earned and expenses when incurred.
This accounting reform represents a move away from simple cash-based records to a more professional system that tracks financial obligations and rights as they arise. It provides a complete picture of a municipality's financial position by including assets and liabilities. This transparency is crucial for better financial management, improved auditing, and establishing the creditworthiness necessary to attract investment for infrastructure.

54. (D) Apply via the E-permit system for automated UDCR compliance checks.
Homeowners must use the centralized digital platform to obtain building permissions for any new construction or expansion. The system automatically verifies if the proposed plan adheres to standardized state building bylaws, such as height and floor area limits. This process ensures that all construction in the city follows modern planning norms while providing a transparent and time-bound approval for the applicant.

55. (A) P-3, Q-2, R-4, S-1
State urban institutions have distinct roles that collectively drive development. While the apex department governs administration, the planning department focuses on master plans and spatial policies. Execution bodies are responsible for large-scale infrastructure projects, including water supply and affordable housing. This institutional framework ensures specialized management of urban growth, from high-level policy formulation to the actual construction of civic and residential facilities.

56. (C) Establishing local agro-processing units and market linkages for farmers.
Developing the value chain involves adding value to agricultural products within the cluster itself rather than just selling raw materials. By setting up processing units and improving connections to wider markets, the mission helps farmers secure better prices and creates local employment. This economic strategy strengthens the rural-urban link and ensures that the benefits of agricultural growth remain within the local community.

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ensures a more rapid and objective process for obtaining official construction approvals.

105. (D) Reinvesting revenue solely into the water supply system's maintenance.
Ring-fencing is a financial reform that ensures the revenue generated from a specific utility, such as water supply, is used only for the upkeep and improvement of that service. This prevents the diversion of user charges to other municipal expenses and ensures that the water utility remains financially sustainable. By reinvesting these funds, the municipality can maintain its infrastructure and provide a more reliable service to the residents.

106. (A) Chhatarpur (Khajuraho)
This district is home to a world-renowned complex of medieval temples famous for their intricate architectural style and historical significance. As a centerpiece of the state's heritage tourism circuit, it receives significant infrastructure investment to preserve the monuments and provide high-quality facilities for international visitors. The development focus here balances cultural conservation with modern urban amenities to support the local tourism-based economy.

107. (B) Units priced specifically for Economically Weaker Sections via state criteria.
Housing for the economically weaker sections is defined by specific income and price limits established by the state to ensure affordability. These projects are designed to provide basic, secure shelter for the most marginalized urban residents. By following these criteria, the government can target its subsidies and development efforts toward those who are unable to afford housing in the traditional private market.

108. (B) Discouraging digital governance to maintain traditional administrative jobs.
The state's urban policy emphasizes environmental sustainability, public transport, and private sector participation to ensure modern and efficient cities. Far from discouraging digital governance, it actively promotes the use of technology to improve municipal services and transparency. Digital tools like online portals and automated systems are seen as essential for modernizing administration and making urban governance more responsive and accountable to the needs of the citizens.

109. (A) 1, 2, and 4
GIS-based master plans use high-resolution satellite data for accurate mapping and sophisticated land use analysis. These digital plans are integrated with other municipal systems like property tax and building permits to ensure consistency across governance. While technology improves the technical quality of the plan, it does not replace the need for public participation, which remains a crucial part of the planning process to ensure community needs are met.

110. (C) Locating the hostel near safe transit with security infrastructure.
In planning residential facilities for working women, priority must be given to safety and accessibility. Locating such hostels near public transport hubs and ensuring they are equipped with proper security features is essential for supporting female professionals in urban areas. This approach aligns with state policies that aim to provide secure and convenient accommodation to encourage the participation of women in the urban workforce.

111. (D) Creating an evidence-based framework to drive accountability and delivery.
Service level benchmarking is used to objectively measure how well a city is delivering core civic services like water and waste management. By comparing performance against national standards, urban local bodies can identify their weaknesses and set clear goals for improvement. This data-driven approach fosters transparency and ensures that municipal officials are held accountable for the quality of services provided to the urban population.

112. (A) Both A and R are true and R is the correct explanation of A.
Providing legal title and tenure security is a fundamental step in urban housing missions because it gives residents the confidence to improve their own living conditions. When the urban poor know their housing is legally secure, they are more likely to invest their modest savings into better construction and sanitation for their

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(A) A phenomenon where rural areas experience higher temperatures than urban areas due to agricultural and irrigation activities.
(B) Higher temperatures in urban areas compared to rural surroundings due to human activities and heat-absorbing infrastructure.
(C) The cooling effect generated by high-rise buildings casting long shadows over urban streets during the afternoon hours.
(D) The rapid increase in temperature observed strictly within the indoor environments of large glass-facade office buildings.

38. Consider the following statements regarding strategies for Urban Heat Island mitigation:
1. Enhancing the albedo of urban surfaces through cool roofs and cool pavements reduces heat absorption.
2. Increasing urban canopy cover provides shade and increases evapotranspiration, which cools the microclimate.
3. Encouraging the use of dark-colored asphalt for all urban roads significantly reduces nighttime thermal retention.
4. Promoting continuous, high-density building masses without wind corridors helps trap cool air at the ground level.

Which of the above statement(s) is/are correct?
(A) 1 and 2
(B) 2 and 3
(C) 1, 2 and 4
(D) 3 and 4

39. In climate responsive planning, the term "Albedo" refers to:
(A) The total amount of heat generated by vehicular exhaust and air conditioning units within a dense urban area.
(B) The total volume of stormwater runoff generated during peak monsoon seasons within a specific drainage catchment.
(C) The structural load-bearing capacity of climate-resilient pavements used in road networks.
(D) A measure of surface reflectivity, indicating the fraction of solar energy reflected back into the atmosphere.

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40. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Passive solar design emphasizes the careful orientation of buildings and streets in an urban layout.
Reason (R): Proper orientation maximizes natural ventilation and natural lighting while minimizing unwanted direct solar heat gain during peak summer months.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

41. In the context of drought resilient water planning, which of the following strategies best exemplifies a sustainable urban approach?
(A) Complete reliance on deep borewells for municipal supply without any legal mandates for groundwater recharge.
(B) Integration of rainwater harvesting, wastewater reuse, and protection of catchment zones within the city master plan.
(C) Paving over all natural wetlands and drainage channels to construct large-scale mechanized water treatment plants.
(D) Exporting all municipal wastewater to distant agricultural zones without any treatment to reduce infrastructure costs.

42. Match List I (Climate Responsive Strategies) with List II (Targeted Resilience Goal) and select the correct answer using the codes given below:
List I: (Climate Responsive Strategies)
P. Freeboard in structural design
Q. Cool pavements
R. Decentralized water storage
S. Wind corridors in urban layout
List II: (Targeted Resilience Goal)
1. Urban Heat Island mitigation
2. Natural ventilation enhancement
3. Flood resilience
4. Drought resilience
(A) P-3, Q-1, R-4, S-2
(B) P-1, Q-3, R-2, S-4
(C) P-3, Q-4, R-1, S-2

receive a larger share of the budget to address their proportionately higher infrastructure and service requirements. This objective method ensures a predictable and fair distribution of state development capital.

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ethical AI considerations.
(B) Agent-based macro-economic simulation.
(C) Predictive maintenance of public infrastructure.
(D) Natural Language Processing of visual media.

25. Transit Oriented Development (TOD) is fundamentally defined as:
(A) A planning strategy that bans all vehicular movement within city limits to promote walking and non-motorized transport.
(B) High-density, mixed-use development centered around a mass transit station designed to maximize walking and transit ridership.
(C) A transportation model focused on constructing expressways connecting suburban residential zones to central business districts.
(D) A housing policy that provides low-density, single-family homes exclusively at the periphery of urban transit networks.

26. Consider the following statements regarding TOD node hierarchy and typology:
1. TOD typologies can be broadly classified into urban, suburban, and neighbourhood contexts based on their scale and function.
2. A Regional TOD node typically features lower densities and primarily serves localized, non-commercial walking trips.
3. National TOD policies advocate for varying development intensities depending on the transit node's position in the city hierarchy.
4. Neighbourhood TOD nodes prioritize fine-grained street networks and community-level retail over large-scale regional office spaces.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

27. According to standard TOD principles, the primary "influence zone" or walkshed delineated around a transit station is typically defined as a radial distance of:
(A) 100m to 200m
(B) 500m to 800m
(C) 1.5km to 2.5km
(D) 5km to 8km

28. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): TOD zones generally mandate reduced minimum parking requirements for new commercial and residential developments.
Reason (R): Restricting abundant and cheap parking discourages personal vehicle use, incentivizing people to utilize the adjacent mass transit system.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

29. Transit Oriented Development (TOD) policies for major metro corridors primarily aim to achieve which of the following?
(A) Restricting building heights to G+2 within a 500m radius of metro stations to preserve heritage sightlines and skylines.
(B) Converting all residential and commercial lands within the metro walkshed into specialized heavy industrial zones.
(C) Mandating that all properties within one kilometer of a station be acquired by the government for future metro depots.
(D) Providing premium Floor Area Ratio (FAR) and promoting mixed land use to densify the corridor and capture land value.

30. Match List I (TOD Principles) with List II (Planning Interventions) and select the correct answer using the codes given below:
List I: (TOD Principles)
P. Walkability
Q. Densify
R. Mix
S. Connect
List II: (Planning Interventions)
1. Implementing high FAR near transit nodes
2. Creating a dense network of streets and pedestrian paths
3. Providing wide, shaded, and barrier-free footpaths

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6. Match List I (Smart Infrastructure Components) with List II (Technological Applications) and select the correct answer using the codes given below:

List I: (Smart Infrastructure Components)

P. Smart Water Management
Q. Smart Waste Management
R. Smart Transport
S. Smart Governance

List II: (Technological Applications)

1. Intelligent Traffic Management System (ITMS)
2. SCADA systems for leak detection
3. E-grievance redressal platforms
4. RFID-tagged bins and route optimization

(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-3, Q-4, R-1, S-2

7. Which of the following statements is correct regarding the IMD World Smart Cities Index?

(A) It is a fiscal evaluation metric that assesses global cities based on their annual Gross Domestic Product (GDP).
(B) It is a technical inventory focus that counts the total number of telecommunication towers established within municipal limits.
(C) It is a domestic ranking framework published annually by the government specifically for Tier-1 cities.
(D) It is a ranking system that evaluates cities based on economic and technological indicators alongside citizen perceptions of urban life quality.

8. Arrange the following key milestones in the timeline of technology-driven urban missions in India in chronological order of their launch:

1. Ease of Living Index (first edition)
2. Sugamya Bharat Abhiyan (Accessible India Campaign)
3. Smart Cities Mission
4. India Urban Data Exchange (IUDX) platform

Select the correct sequence:

(A) 3, 2, 1, 4
(B) 3, 2, 4, 1
(C) 2, 1, 3, 4
(D) 3, 4, 2, 1

9. Consider the following statements regarding smart city dimensions:

Statement I: The "Smart People" dimension of a Smart City focuses on promoting digital literacy, inclusive education, and fostering a culture of innovation among citizens.

Statement II: The "Ease of Living Index" provides a rigid mandate that all cities must follow identical technological procurement processes regardless of their local demographic contexts.

Which of the following is correct?

(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

10. Identify the INCORRECT statement regarding Open Data Platforms for cities in India.

(A) They aim to foster innovation by allowing start-ups and researchers to access non-personal municipal data.
(B) Open data platforms mandate the public disclosure of highly sensitive personal citizen data to ensure absolute municipal transparency.
(C) The India Urban Data Exchange (IUDX) serves as an open-source platform facilitating secure data exchange.
(D) They enable evidence-based policymaking by aggregating data from varied urban silos like transit, utilities, and environment.

11. An urban local body wishes to shift from a static 20-year master plan to a "Digital Master Plan". How does this conceptual shift fundamentally alter planning practice?

(A) A transition to dynamic, GIS-based spatial tools that integrate real-time data for the continuous monitoring of urban growth.
(B) A system that eliminates all traditional zoning regulations by using AI to approve all building permits without municipal oversight.
(C) A move to replace all physical land-use maps with basic digital spreadsheets to reduce long-term municipal software licensing costs.
(D) A policy that prohibits citizen participation in planning, relying entirely on autonomous algorithmic decision-making for future

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homes. This individual investment, supported by state land tenure, leads to a more sustainable and high-quality urban habitat.

113. (B) Unified Development Control Regulations - City-specific unstructured bylaws
Planning reforms in the state focus on standardization and transparency to improve governance. Accrual-based accounting ensures clear financial records, while GIS master plans provide geospatial accuracy. Contrary to city-specific unstructured rules, the unified regulations provide a single, standardized set of building norms for all urban areas. This uniformity is essential for the successful operation of automated digital permission systems and consistent urban development across the entire state.

114. (D) Mandating basic sleeping spaces and sanitation for the destitute.
State initiatives for the urban homeless focus on providing safe, temporary shelter with essential amenities. These night shelters are designed to protect the destitute from extreme weather and provide them with access to basic sanitation and a place to sleep. By offering these facilities, the state ensures that the most vulnerable urban residents have a minimal level of dignity and protection, particularly during the winter months.

115. (A) P-3, Q-1, R-2, S-4
Urban reforms and missions lead to significant improvements in civic life and governance. While some bridge infrastructure gaps and improve financial ratings, others use technology to eliminate errors in building approvals. Additionally, specialized missions aim to provide urban amenities in rural clusters to manage migration patterns. These outcomes collectively represent a comprehensive strategy to modernize urban local bodies and ensure sustainable growth across both urban and rural landscapes.

116. (C) Statement I is correct and Statement II is incorrect.
The state encourages the formation of cooperative societies to help citizens collectively fund and manage their own housing developments. However, these societies must still strictly follow the state's unified building regulations and planning norms. This ensures that while citizens have the autonomy to build their own communities, all such developments meet the necessary standards for safety, density, and public infrastructure as defined by the government.

117. (A) Water Audit
This specialized reform focuses on the systematic analysis of water production versus billed consumption to identify losses in the distribution system. By balancing these figures, municipal corporations can pinpoint areas where water is being lost to leaks or unauthorized usage. This process is essential for improving the efficiency of urban water supply, reducing waste, and ensuring that the utility can recover the costs of providing clean water.

118. (D) Developing veterinary infrastructure, milk chilling centers, and cooperative market linkages.
In clusters dominated by specific agricultural activities, the mission focuses on strengthening the local economy by providing necessary specialized infrastructure. For a dairy-based cluster, this involves building facilities for animal health and milk processing, as well as helping farmers organize into cooperatives. This strategy ensures that the local community can process their products locally and access better markets, leading to higher incomes and sustainable economic growth.

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119. (B) MP Housing and Infrastructure Development Board
This statutory body is the primary agency responsible for the physical construction and management of affordable housing units under state and central missions. It leverages its technical expertise and land resources to develop residential colonies that cater to diverse income groups. By acting as the construction arm of the state's housing policy, it ensures the systematic delivery of habitat solutions for the urban population.

120. (C) Proportionately larger fund shares for cities with higher infrastructure demand.
The population-based formula serves as an objective criterion for distributing financial resources across the urban local bodies of the state. By linking allocation to the number of residents, the framework ensures that urban centers with significant demographic pressure

18. Match List I (AI Technologies) with List II (Urban Planning Applications) and select the correct answer using the codes given below:
List I: (AI Technologies)
P. Natural Language Processing (NLP)
Q. Computer Vision
R. Agent-Based Modelling
S. Predictive Analytics
List II: (Urban Planning Applications)
1. Simulating individual pedestrian movement in a transit hub
2. Analyzing sentiment from citizen feedback portals
3. Forecasting future peak energy demands based on weather data
4. Automating vehicle number plate recognition for traffic enforcement
(A) P-2, Q-4, R-1, S-3
(B) P-4, Q-2, R-3, S-1
(C) P-2, Q-1, R-4, S-3
(D) P-1, Q-3, R-2, S-4

19. Which of the following best describes the concept of a "Digital Twin" in urban planning?
(A) A virtual digital replica of physical city assets and processes used for scenario testing and simulation of urban interventions.
(B) A secondary backup server located in a distant city to store municipal records safely against potential hardware failures.
(C) A statutory requirement for all citizens to maintain a digital identity card linked to their property and utility tax records.
(D) A formal bilateral agreement between two smart cities to share their e-governance software architectures and source codes.

20. Arrange the following stages of data maturity in urban governance in the correct chronological progression from least advanced to most advanced:
1. Utilization of AI for Prescriptive Analytics
2. Adoption of descriptive GIS mapping
3. Paper-based manual record-keeping
4. Integration of real-time IoT dashboards (ICCC)
Select the correct sequence:
(A) 3, 2, 4, 1
(B) 3, 4, 2, 1
(C) 2, 3, 1, 4
(D) 4, 1, 2, 3

21. Consider the following statements regarding data ethics in urban planning:
Statement I: Algorithmic bias in urban planning AI can inadvertently perpetuate historical inequalities if the training data reflects past discriminatory practices in infrastructure allocation.
Statement II: The India Urban Data Exchange (IUDX) operates without any data privacy protocols, as its sole aim is to monetize citizen data for private enterprises.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

22. Identify the INCORRECT statement regarding Agent-Based Modelling (ABM) in urban simulation.
(A) ABM simulates the actions and interactions of autonomous individual entities, or "agents".
(B) It is highly useful for modelling complex adaptive systems like urban traffic flows or evacuation scenarios.
(C) ABM relies on the assumption that all individuals in a city make identical, perfectly rational macro-level decisions.
(D) Agents in the model can be programmed with specific behavioral rules reflecting different demographic profiles.

23. A municipal water department utilizes historical consumption data, localized weather forecasts, and socio-economic variables in a machine learning model to estimate daily water needs for the upcoming season. This is an application of:
(A) Natural Language Processing for citizen redressal.
(B) Descriptive spatial clustering.
(C) Computer vision for leak detection.
(D) AI-based demand forecasting for utilities.

24. A town planner assesses the utilization rate of a newly developed public plaza using security camera feeds linked to an AI algorithm that counts human figures and heatmaps their dwell time while blurring faces. This primarily demonstrates the use of:
(A) Computer vision with privacy-preserving

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development.

12. A city has completed its Area Based Development (ABD) under the Smart Cities Mission. In drafting the post-mission roadmap, the city planners decide to scale up a smart water metering project from the ABD to the entire city. This transition represents a shift from:
(A) Pan-city solutions to localized pilot testing.
(B) Greenfield development to brownfield eradication.
(C) Localized spatial intervention to Pan-City infrastructure scaling.
(D) Transit Oriented Development to urban sprawl management.

13. In the domain of Urban Data Analytics, what is the defining characteristic of "Prescriptive Analytics"?
(A) A data method that describes historical events in the city by utilizing archived records and previous years' performance metrics.
(B) A forecasting technique that identifies likely future outcomes by applying statistical models to current trends and demographic shifts.
(C) A visualization process focused on presenting raw municipal data without drawing any specific analytical or strategic conclusions.
(D) An analytical approach that recommends optimal actions or strategies to achieve specific urban objectives and mitigate predicted issues.

14. Consider the following statements regarding sources of Big Data in urban planning:
1. Mobile network data can be utilized to map dynamic population mobility and origin-destination flows.
2. IoT sensors in water distribution networks provide continuous, real-time pressure and flow data.
3. Social media geotagging offers insights into public sentiment and informal urban usage patterns.
4. Traditional decadal census data represents the most dynamic and high-velocity form of Big Data available to planners.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 4
(B) 1, 2 and 3
(C) 2, 3 and 4
(D) 1, 3 and 4

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15. When applying Machine Learning to urban planning, which technique is most commonly used for automating the classification of distinct land uses from high-resolution satellite imagery?
(A) Natural Language Processing
(B) Convolutional Neural Networks (Computer Vision)
(C) Agent-Based Modelling
(D) Reinforcement Learning

16. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Artificial Intelligence can significantly enhance the predictive maintenance of urban infrastructure such as bridges and water pipelines.
Reason (R): AI algorithms can analyze continuous data streams from structural health monitoring sensors to identify anomalous patterns and predict failures before they occur.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

17. What is the primary operational advantage of AI-based Intelligent Traffic Management Systems (ITMS) over traditional traffic lights?
(A) It dynamically adjusts traffic signal timings based on real-time vehicle density analysis using AI-integrated camera feeds.
(B) It permanently diverts all heavy commercial vehicles away from city boundaries without the need for manual traffic policing.
(C) It automatically processes and issues building permissions for commercial properties located near major urban intersections.
(D) It replaces all physical traffic policing and intersection management with a fleet of autonomous surveillance drones.

4. Ensuring a balance of residential, commercial, and civic land uses

(A) P-3, Q-1, R-4, S-2
(B) P-2, Q-1, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-1, Q-2, R-4, S-3

31. Which of the following statements is correct regarding the density norms in TOD zones as per standard planning guidelines?

(A) Densities should be kept uniform across the entire municipal area regardless of proximity to high-capacity transit nodes.
(B) Densities should be significantly higher within the TOD influence zone compared to the rest of the city to support ridership.
(C) Guidelines mandate a strict reduction in population density near transit stations to prevent potential urban overcrowding.
(D) Densities are entirely deregulated and left to the discretion of private developers without any municipal planning oversight.

32. Arrange the following methodological steps of Station Area Planning in a standard logical sequence:

1. Delineation of the TOD influence zone based on walking distances.
2. Implementation of Land Value Capture (LVC) mechanisms.
3. Baseline analysis of existing land use, density, and mobility networks.
4. Proposal of mixed-use zoning and pedestrian infrastructure upgrades.

Select the correct sequence:

(A) 3, 1, 4, 2
(B) 1, 3, 4, 2
(C) 1, 4, 3, 2
(D) 3, 4, 1, 2

33. Consider the following statements regarding TOD policy implementation:

Statement I: Providing FAR incentives in TOD zones is often linked to the inclusion of affordable housing units to prevent transit-induced gentrification.

Statement II: A mono-functional land use pattern (e.g., exclusively commercial) within a TOD zone ensures uniform transit ridership throughout the entire day.

Which of the following is correct?

(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

34. Identify the INCORRECT statement regarding the application of Land Value Capture (LVC) in TOD projects.

(A) LVC mechanisms are used to fund transit infrastructure by capturing a portion of the increased property values generated by transit investment.
(B) Betterment levies and impact fees are common LVC tools utilized in TOD.
(C) Modern metro models in major Indian cities completely avoid using LVC, relying solely on international grants.
(D) The sale of premium FAR or additional development rights is a primary method of generating LVC revenue.

35. A planner clusters residential, retail, office, and recreational spaces within a 500-meter radius of a proposed MRTS station so that residents can fulfill daily needs without a private vehicle. This directly applies the TOD principle of:

(A) Land use mix
(B) Homogeneous zoning
(C) Pan-city decentralization
(D) Urban sprawl

36. An Urban Local Body is delineating a TOD zone. Based on standard guidelines, they mark out a 500m radius from the station. If a major unbridged river cuts through this radius at 200m from the station, the planner should:

(A) Strictly enforce the TOD FAR across the entire 500m geometric circle without considering physical geography.
(B) Ban all new developments on the opposite side of the river up to five kilometers from the station.
(C) Shift the transit station location to the geographical center of the city regardless of technical viability.
(D) Map the actual pedestrian network distance (network walkshed) rather than a simple Euclidean radius on the map.

37. The "Urban Heat Island" (UHI) effect is fundamentally defined as:

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CHAPTER 25
Future and Technology Driven Planning

1. Which of the following best defines the conceptual framework of a "Smart City" in the context of urban planning?
(A) A city that uses digital technology and data analytics to optimize infrastructure and enhance the quality of life for its citizens.
(B) A city that relies exclusively on automated robotic systems for all municipal service deliveries without any human supervision or policy intervention.
(C) A city where the entire geographical area is redeveloped into high-density commercial zones with premium FAR regardless of residential needs.
(D) A city that eliminates physical governance structures in favor of entirely decentralized blockchain-based administration across all public departments.

2. Consider the following statements regarding the Special Purpose Vehicle (SPV) model under the Smart Cities Mission in India:
1. The SPV is established as a Limited Company under the Companies Act, 2013.
2. The Central Government holds a 100% equity stake in the SPV to ensure strict financial control.
3. The SPV is responsible for the implementation, monitoring, and evaluation of the Smart City proposal.
4. The Board of Directors of the SPV includes representatives from both the State Government and the Urban Local Body.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

3. Under the Smart Cities Mission in India, which specific developmental strategy focuses on transforming existing built-up areas through retrofitting, redevelopment, or greenfield development in a concentrated zone?
(A) Area Based Development (ABD)
(B) Pan-City Development
(C) Universal Transit Development
(D) Sectoral Master Planning

4. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): The Smart Cities Mission in India mandated the creation of a Special Purpose Vehicle (SPV) at the city level.
Reason (R): SPVs were designed to ensure operational independence, dedicated focus, and to attract private investment by bypassing the administrative delays typical of traditional Urban Local Bodies.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

5. In the context of urban infrastructure, an Integrated Command and Control Centre (ICCC) functions primarily as:
(A) A purely administrative office for state planning departments focused on manual record-keeping and site visits.
(B) A central nervous system integrating municipal services like waste, traffic, and emergency response through real-time data monitoring.
(C) A financial clearinghouse for property tax collection and municipal bond issuance that operates independently from physical urban operations.
(D) A large-scale data storage facility used by police for long-term archiving of cybercrime records and historical criminal databases.

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(D) P-4, Q-1, R-3, S-2

43. Which of the following statements is correct regarding flood resilient urban planning?
(A) Strategic ecological setbacks along rivers and water bodies act as buffers that absorb floodwaters and prevent structural damage.
(B) Maintaining a designated "freeboard" level ensures that the lowest floor of a building is constructed below the highest expected flood level.
(C) Channelizing all natural streams into narrow concrete drains is the most effective method to prevent urban flash floods.
(D) Flood resilient planning promotes highest-density residential zoning directly within primary floodplains to consolidate infrastructure.

44. Arrange the following conceptual steps in formulating a "Net-zero carbon city roadmap" in chronological order:
1. Implementing low-carbon interventions (e.g., renewable energy integration, TOD).
2. Establishing a baseline greenhouse gas (GHG) emissions inventory for the city.
3. Monitoring, reporting, and verifying (MRV) emissions reductions.
4. Setting temporal emission reduction targets (e.g., 50% reduction by 2030).

Select the correct sequence:
(A) 2, 4, 1, 3
(B) 4, 2, 1, 3
(C) 2, 1, 4, 3
(D) 1, 2, 4, 3

45. Consider the following statements regarding the National Mission for Sustainable Habitat (NMSH):
Statement I: The National Mission for Sustainable Habitat (NMSH) primarily mandates the rapid expansion of motorized personal transport infrastructure in Indian cities to reduce travel time.
Statement II: NMSH emphasizes energy efficiency in buildings, solid waste management, and promoting public transport to mitigate climate change impacts.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

46. Identify the INCORRECT statement regarding climate zoning and location-specific design guidance in India.
(A) The National Building Code classifies the country into distinct climate zones such as Hot and Dry, Warm and Humid, or Composite.
(B) Architectural responses, such as window-to-wall ratios and shading devices, should vary based on the requirements of the climate zone.
(C) Zoning mandates identical building envelopes and structural materials be used universally across all Indian cities for aesthetics.
(D) In Hot and Dry zones, design guidance typically recommends minimizing eastern and western exposure to reduce solar heat gain.

47. A planner designs a street network for a hot-arid climate greenfield township. By orienting the streets with prevailing summer wind directions and staggering building heights, the planner aims to:
(A) Maximize the urban heat island effect.
(B) Enhance natural ventilation and localized cooling through wind tunneling.
(C) Increase vehicular speed limits by providing clear lines of sight.
(D) Reduce the albedo of the street network.

48. A coastal city enforces stricter construction setbacks from the high-tide line and mandates elevated plinths for coastal communities in its decadal master plan. This specific regulatory intervention demonstrates:
(A) Transit Oriented Development zoning.
(B) Smart governance analytics.
(C) Drought resilient water planning.
(D) Integration of climate change risk and flood resilience into city master plans.

49. Under the framework of the Sugamya Bharat Abhiyan, "Universal Design" is fundamentally defined as:
(A) Designing environments and products to be usable by all people to the greatest extent

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Reason (R): AI models can analyze historical consumption patterns and meteorological forecasts to accurately predict peak load periods, allowing utilities to balance supply.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

101. The integration of Green Building principles and TOD guidelines into large-scale residential enclaves near transit nodes reflects an alignment with which policy framework?
(A) National Heritage City Development and Augmentation Yojana (HRIDAY) for monument preservation.
(B) National Mission for Sustainable Habitat (NMSH) and National Transit Oriented Development (TOD) Policy.
(C) Swachh Bharat Mission rural component focused on open defecation free status in villages.
(D) National Rurban Mission focused on developing clusters of villages that preserve the nature of rural life.

102. Match List I (NBC 2016 Accessibility Specifications) with List II (Standard Specifications) and select the correct answer using the codes given below:
List I: (NBC 2016 Accessibility Elements)
P. Minimum clear width of an accessible ramp
Q. Maximum gradient of a continuous accessible ramp
R. Height of a handrail on a ramp
S. Minimum clear opening width of an accessible door
List II: (Standard Specifications)
1. 1:12
2. 1200 mm
3. 900 mm
4. 760 mm to 900 mm
(A) P-2, Q-1, R-4, S-3
(B) P-3, Q-1, R-2, S-4
(C) P-2, Q-4, R-1, S-3
(D) P-1, Q-2, R-3, S-4

103. Which of the following statements is correct concerning the post-mission roadmap for the Smart Cities Mission (SCM) in India?
(A) Dictating the immediate dissolution of all SPVs and the total abandonment of all projects.
(B) Shifting the entire financial burden of smart city maintenance strictly to the Central Government in perpetuity.
(C) Restricting smart interventions to only the initial 100 cities, forbidding other cities from adopting smart frameworks.
(D) Institutionalizing learnings, scaling pilots to pan-city levels, and integrating ICCCs into daily municipal operations.

104. Identify the correct pair regarding elements of the Smart City concept:
(A) Smart Environment - Implementing air quality sensors linked to predictive analytical dashboards for city-wide monitoring.
(B) Smart Governance - Transitioning exclusively to physical paper-based systems to ensure manual accountability.
(C) Smart Living - Expanding urban sprawl to reduce population density at the urban core.
(D) Smart Mobility - Mandating the exclusive use of private fossil-fuel vehicles for all urban travel.

105. Consider the following statements regarding urban missions and acts:
Statement I: A net-zero carbon cities roadmap typically involves transitioning urban energy grids to renewable sources and electrifying public transport.
Statement II: The RPWD Act 2016 reduced the recognized number of disabilities from 21 to 7 to streamline accessibility planning.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

106. Identify the INCORRECT statement regarding the station area planning methodology in TOD.
(A) It requires a comprehensive analysis of first-mile and last-mile connectivity around the transit node.
(B) It enforces strict land use segregation,

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55. Which of the following statements is correct regarding the standards for accessibility in the built environment in India?
(A) The National Building Code (NBC) 2016 explicitly removed all chapters related to accessibility to simplify the construction process.
(B) IS 9926 is an Indian Standard that provides outdated guidelines that are no longer related to modern barrier-free environments.
(C) Accessibility standards apply only to high-rise residential buildings and exempt all commercial complexes.
(D) The NBC 2016 contains a dedicated section detailing spatial requirements, ramps, and signage for barrier-free environments.

56. Arrange the following accessibility and disability-related interventions in India in their chronological order of enactment/launch:
1. Sugamya Bharat Abhiyan (Accessible India Campaign)
2. Rights of Persons with Disabilities (RPWD) Act
3. Persons with Disabilities (PWD) Act (older framework)
4. National Building Code (revision incorporating comprehensive accessibility standards)

Select the correct sequence:
(A) 3, 1, 2, 4
(B) 3, 2, 1, 4
(C) 1, 3, 2, 4
(D) 1, 2, 4, 3

57. Consider the following statements regarding inclusive planning:
Statement I: Inclusive planning necessitates the active participation of Disabled Persons' Organizations (DPOs) during the master plan preparation phase.
Statement II: The Sugamya Bharat portal is exclusively designed for the general public to pay their utility bills digitally.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

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58. Identify the INCORRECT statement regarding the provision of accessible public transport under the Sugamya Bharat Abhiyan.
(A) It mandates the procurement of low-floor buses equipped with ramps and wheelchair anchoring points.
(B) The campaign requires that all public transport vehicles completely prohibit non-disabled passengers to reserve capacity.
(C) Metro systems are required to have tactile routing, accessible ticketing counters, and audio-visual announcements.
(D) Retrofitting of existing major railway stations to include functional lifts, escalators, and accessible toilets is a key target.

59. A city's municipal corporation redesigns its official e-services website to ensure compatibility with screen readers and incorporates high-contrast modes. This intervention aligns with which vertical of the Sugamya Bharat Abhiyan?
(A) Information and Communication Technology (ICT) Ecosystem Accessibility
(B) Built Environment Accessibility
(C) Transport System Accessibility
(D) Urban Heat Island Mitigation

60. During the redevelopment of a busy public street, city planners hold a workshop inviting wheelchair users, visually impaired citizens, and senior citizens to test the proposed footpath widths and intersection crossing timings. This is an example of:
(A) Agent-based macro-economic modelling.
(B) Transit-oriented zone delineation.
(C) Inclusive planning process and participatory design.
(D) Predictive maintenance of infrastructure.

61. What is the fundamental purpose of the India Urban Data Exchange (IUDX)?
(A) A closed, hardware-based storage facility controlled by the military for tracking all urban movements.
(B) A specialized satellite system deployed to generate real-time topographical maps of 100 smart cities.
(C) A financial exchange platform used exclusively for trading municipal bonds and infrastructure shares.
(D) An open-source platform for the secure and

(B) Replacing all urban green spaces and parks with artificial turf to save municipal water.
(C) Confining all tree planting and urban forestry projects exclusively to the immediate periphery of the city limits.
(D) Establishing strategic canopy cover targets integrated with urban streetscapes, parks, and other public open spaces.

88. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Climate resilient planning mandates the incorporation of "freeboard" in infrastructure design in flood-prone zones.
Reason (R): Freeboard acts as a factor of safety, elevating critical assets and habitable floors above the calculated base flood elevation to protect against extreme weather events.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

89. In the context of climate resilience, which intervention is primarily pursued in sustainable urban development schemes across Indian towns?
(A) Expanding four-lane expressways into core heritage zones to increase vehicular speed for tourists.
(B) Augmenting water supply networks with SCADA and developing sewerage treatment plants for wastewater reuse.
(C) Constructing large fossil-fuel-powered thermal energy plants within residential layouts.
(D) Deforesting urban peripheries to create massive open-pit landfills for the disposal of unsegregated municipal waste.

90. Match List I (Barrier-Free Design Elements) with List II (Targeted Beneficiary Group) and select the correct answer using the codes given below:
List I: (Barrier-Free Design Elements)
P. Tactile warning blocks at stairway edges
Q. Ramps with a maximum gradient of 1:12
R. Auditory traffic signals at pedestrian crossings
S. Lowered counter heights in public offices
List II: (Targeted Beneficiary Group)
1. Wheelchair users
2. Visually impaired individuals
3. Visually impaired individuals navigating intersections
4. Persons with locomotor disabilities requiring seated interaction
(A) P-2, Q-1, R-3, S-4
(B) P-3, Q-1, R-2, S-4
(C) P-2, Q-4, R-3, S-1
(D) P-1, Q-2, R-4, S-3

91. Which of the following statements is correct regarding the principle of building orientation for natural ventilation?
(A) Capturing prevailing summer breezes by using operable windows placed on opposite walls to facilitate cross-ventilation.
(B) Presenting the longest solid facades perfectly perpendicular to the cooling wind direction to block natural airflow.
(C) Designing buildings without considering orientation, relying only on mechanical HVAC systems for thermal comfort.
(D) Constructing courtyard typologies that are permanently sealed with glass roofs in hot climates.

92. Identify the INCORRECT pair regarding the Seven Principles of Universal Design:
(A) Equitable Use - The design is useful and marketable to people with diverse abilities.
(B) Flexibility in Use - The design accommodates a wide range of individual preferences.
(C) Simple and Intuitive Use - Use of the design requires high technical expertise and complex maneuvering.
(D) Low Physical Effort - The design can be used efficiently and comfortably with minimum user fatigue.

93. Consider the following statements regarding climate-responsive planning:
Statement I: Drought resilient water planning relies heavily on decentralized storage systems, such as rejuvenated urban lakes and aquifer recharge structures.
Statement II: Cool roofs utilize materials with

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destination travel flow analysis
(C) Smart Card ticketing data - Public transit ridership patterns
(D) Social Media feeds - Cadastral boundary demarcation for property rights

69. Consider the following statements regarding smart city missions:
Statement I: Smart waste management systems often utilize fill-level sensors in public bins to optimize collection routes dynamically.
Statement II: The post-mission roadmap for India's Smart Cities aims to isolate successful pilot projects and prevent them from being replicated in other municipalities.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

70. Identify the INCORRECT statement regarding Supervisory Control and Data Acquisition (SCADA) systems in smart water management.
(A) SCADA allows for the remote monitoring and automated control of complex water distribution networks across the city.
(B) It helps in rapidly identifying pressure drops in the system which may indicate potential pipeline leakages.
(C) SCADA systems eliminate the need for physical water treatment infrastructure by virtually purifying the municipal supply.
(D) It enables data-driven decision-making to optimize daily energy use in urban water pumping stations.

71. An urban planner predicts how commuters will choose between a new metro, existing buses, and ride-hailing services under different pricing scenarios. The most suitable urban simulation tool for this is:
(A) Computer vision tracking.
(B) Natural Language Processing.
(C) Descriptive historical analysis.
(D) Agent-based modelling.

72. What is the primary advantage of utilizing a "Digital Twin" for testing a new urban planning scenario, such as closing a major road for pedestrianization?
(A) It allows planners to simulate systemic impacts on traffic and air quality in a virtual environment before implementation.
(B) It bypasses the legal requirement for obtaining environmental clearances and social impact assessments.
(C) It provides an immutable blockchain-based record of all land ownership and property transaction history.
(D) It automatically generates large-scale construction funding from private international investors.

73. In the context of urban planning and monitoring, "Computer Vision" is best defined as:
(A) A demographic survey method that relies on municipal officials manually sketching urban landscapes.
(B) A field of AI that enables computers to derive meaningful information from digital images, videos, and other visual inputs.
(C) A specialized software strictly used for typing and generating textual master plan documents.
(D) A regulatory framework dictating the maximum aesthetic height and illumination of commercial billboards.

74. Consider the following steps involved in using Machine Learning for land use classification from satellite imagery:
1. Sourcing high-resolution multi-spectral satellite imagery.
2. Creating training datasets by manually labeling sample polygons.
3. Training a classification model (e.g., Random Forest) on the labeled data.
4. Applying the trained model to classify the entire urban area autonomously.

Which of the above statement(s) is/are correct regarding the standard methodological workflow?
(A) 1, 2 and 3 only
(B) 2, 3 and 4 only
(C) 1, 3 and 4 only
(D) 1, 2, 3 and 4

75. Natural Language Processing (NLP) is used by smart city administrations primarily for:
(A) Analyzing text data from citizen feedback portals and social media to gauge public

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sentiment regarding services.
(B) Automatically translating 2D master plan maps into physical 3D models using advanced techniques.
(C) Controlling water pressure and valve operations in the underground utility network through voice-command systems.
(D) Generating random aesthetic patterns for cool pavement designs based on traditional regional art.

76. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): High population and job density within the TOD walkshed is critical for the financial viability of mass rapid transit systems.
Reason (R): High density generates concentrated, bidirectional, and consistent footfall, which translates directly into sustained farebox revenue.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

77. Integrating smart mobility data from city bus operations (e.g., smart ticketing and GPS tracking) into a centralized dashboard helps planners primarily to:
(A) Restrict all intra-city vehicular movement permanently to reduce urban carbon emissions to zero.
(B) Provide legal justification for the immediate demolition of all existing road networks in favor of pedestrian zones.
(C) Monitor the private conversations and digital activities of individual citizens during their daily transit travel.
(D) Optimize route alignments, frequencies, and fleet allocation based on predictive passenger demand.

78. Match List I (Land Value Capture Mechanisms in TOD) with List II (Descriptions) and select the correct answer using the codes given below:
List I: (Land Value Capture Mechanisms in TOD)
P. Betterment Levy
Q. Sale of Premium FAR
R. Tax Increment Financing (TIF)
S. Vacant Land Tax
List II: (Descriptions)
1. Allowing developers to build higher densities around stations for a fee
2. Earmarking future increases in property tax revenues to fund current improvements
3. A one-time tax imposed on landowners whose property values rise due to new public transit infrastructure
4. Penalizing undeveloped plots in high-value transit zones to encourage densification
(A) P-3, Q-1, R-2, S-4
(B) P-1, Q-2, R-3, S-4
(C) P-3, Q-4, R-1, S-2
(D) P-2, Q-3, R-4, S-1

79. Which of the following statements correctly articulates the rationale behind adopting "reduced minimum parking requirements" in TOD zones?
(A) Abundant free parking attracts more transit ridership by allowing commuters to store cars permanently near stations.
(B) Limiting the supply and increasing the cost of parking discourages private vehicle reliance, incentivizing transit use.
(C) Reduced parking ensures that developers are forced to build wider multi-lane highways within the designated TOD zone.
(D) It is a strategy exclusively meant to clear land for large-scale agricultural use and urban farming within the city center.

80. Identify the correct pair regarding TOD node typologies:
(A) Urban Node - Characterized by massive industrial estates located far from any residential components.
(B) Suburban Node - Exclusively features high-density luxury commercial towers with no local neighborhood services.
(C) Neighborhood Node - Focuses solely on accommodating large agricultural markets at the periphery of the urban area.
(D) Regional Node - Connects major inter-city transit hubs with high-intensity mixed commercial and retail land uses.

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81. Consider the following statements regarding urban technology:
Statement I: Predictive maintenance of infrastructure using AI relies entirely on historical failure rates without requiring any real-time sensor data.
Statement II: Incorporating affordable housing mandates within TOD policies prevents the displacement of low-income groups most reliant on public transit.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

82. Identify the INCORRECT statement regarding the ethical considerations of AI in urban planning.
(A) AI systems can unintentionally learn and amplify systemic biases present in historical municipal datasets.
(B) Privacy concerns are paramount, particularly when utilizing computer vision and mobile tracking data for monitoring.
(C) AI relies on mathematical algorithms, making it inherently incapable of producing biased outcomes against minority groups.
(D) Algorithmic transparency and accountability are necessary to ensure citizens can trust automated governance decisions.

83. A developer owns a 1000 sq.m plot in a TOD zone. The base FAR is 1.5. Under the TOD policy, the developer purchases an additional premium FAR of 1.0. What is the maximum built-up area the developer is now permitted to construct?
(A) 1,000 sq.m
(B) 1,500 sq.m
(C) 2,500 sq.m
(D) 3,000 sq.m

84. When delineating a TOD zone's "walkshed," which approach is the most appropriate to ensure an accurate representation of accessibility?
(A) Drawing a perfect 500m radius circle (as the crow flies) on a 2D map without considering the built environment.
(B) Measuring the distance a private car can travel in 5 minutes during peak traffic hours to define the zone.
(C) Basing the zone purely on the administrative ward boundary in which the transit station is geographically located.
(D) Calculating actual pedestrian network distance, considering physical barriers, intersection crossings, and street layouts.

85. In the context of climate responsive planning and UHI mitigation, "albedo enhancement" refers specifically to:
(A) Installing heavy concrete canopies over all public streets to block rainfall and prevent groundwater recharge.
(B) Utilizing materials that reflect solar radiation and emit absorbed heat, keeping urban surfaces significantly cooler.
(C) Using deep-colored, heat-absorbing materials to retain warmth during summer months.
(D) Planting deep-rooted tree species exclusively to stabilize soil during major flood events in the river basin.

86. Consider the following statements regarding the cities component of the National Mission for Sustainable Habitat (NMSH):
1. It emphasizes the development of comprehensive mobility plans prioritizing public transit and non-motorized transport.
2. It mandates the incorporation of energy efficiency norms (e.g., ECBC) in building bye-laws.
3. It promotes optimized solid waste management practices, prioritizing segregation at source and waste-to-energy mechanisms.
4. It legally prohibits any new infrastructural development in urban areas to halt carbon emissions completely.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 2, 3 and 4
(C) 1, 3 and 4
(D) 1, 2 and 4

87. What is a typical target for urban greening and canopy cover in climate responsive master plans aimed at reducing the Urban Heat Island effect?
(A) Maintaining canopy cover strictly below 5% of land area to maximize the efficiency of rooftop solar panel installations.

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managed exchange of data among smart city departments and external entities.

62. Consider the following statements regarding the Ease of Living Index:
1. It aims to assess the quality of life of citizens across Indian cities.
2. The index evaluates cities across dimensions like Quality of Life, Economic Ability, and Sustainability.
3. It has a strong correlation with the outcomes targeted by the Smart Cities Mission.
4. Only mega-cities with a population exceeding 10 million are evaluated under this index.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 3 and 4
(C) 2, 3 and 4
(D) 1, 2 and 4

63. In the organizational structure of a Smart City SPV in India, who typically serves as the operational head responsible for day-to-day execution?
(A) The Mayor of the Urban Local Body
(B) The Chief Executive Officer (CEO)
(C) The District Collector
(D) The State Chief Minister

64. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Pan-city solutions under the Smart Cities Mission generally leverage technology and data to improve city-wide infrastructure.
Reason (R): Unlike Area Based Development, Pan-city interventions like intelligent traffic management or smart water metering aim to benefit the entire urban population.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

65. The integration of crowd management, surveillance, and emergency response technologies within major pilgrimage corridors using an ICCC is an example of smart city technology applied to:
(A) Heritage and pilgrimage tourism management.
(B) Industrial corridor zoning.
(C) Transit-oriented affordable housing.
(D) Agent-based economic forecasting.

66. Match List I (Smart Governance Features) with List II (Descriptions) and select the correct answer using the codes given below:
List I: (Smart Governance Features)
P. E-services
Q. Grievance Redressal
R. Data Analytics Dashboard
S. Open Data Portal
List II: (Descriptions)
1. CM Helpline or apps allowing citizens to report civic issues
2. Online mechanisms for paying property tax or obtaining birth certificates
3. Platforms providing non-sensitive municipal datasets to researchers
4. Visual interface for administrators to monitor real-time city metrics
(A) P-2, Q-1, R-4, S-3
(B) P-1, Q-2, R-3, S-4
(C) P-4, Q-3, R-2, S-1
(D) P-2, Q-4, R-1, S-3

67. Which of the following statements is correct regarding the "Smart Economy" dimension of the Smart City concept?
(A) Fostering an environment conducive to innovation, entrepreneurship, e-commerce, and high-productivity employment.
(B) Relying solely on traditional heavy manufacturing and primary industries located within municipal limits.
(C) Advocating for the complete elimination of formal municipal taxation systems within all urban areas.
(D) Restricting all urban economic activities strictly to government-owned public sector undertakings.

68. Identify the INCORRECT pair regarding sources of Big Data in urban planning:
(A) IoT Sensors - Real-time environmental air quality mapping
(B) Mobile Call Detail Records (CDR) - Origin-

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low albedo to aggressively absorb solar radiation during summer months.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

94. Identify the INCORRECT statement regarding the Rights of Persons with Disabilities (RPWD) Act, 2016 in the context of urban planning.
(A) All new public buildings must be made accessible in accordance with government-prescribed standards.
(B) Specific time limits are set for government establishments to make existing buildings and services fully accessible.
(C) Private commercial establishments providing public services are permanently exempt from all national accessibility norms.
(D) Statutory backing is provided to the principles of inclusive barrier-free design within the broader urban environment.

95. What is the fundamental physical difference that makes "cool pavement" technology climate responsive?
(A) Integrating active mechanical air conditioning units within the concrete base to cool the street surface.
(B) Reflecting more solar radiation and absorbing less heat, thereby lowering surface and ambient air temperature.
(C) Painting the pavement surface black to maximize solar heat absorption during the night.
(D) Completely prohibiting the percolation of stormwater through the pavement to keep the surface dry.

96. Which of the following is the most appropriate strategy to ensure digital e-services are fully aligned with the Sugamya Bharat Abhiyan?
(A) Making digital services available only through high-end, expensive smartphones.
(B) Providing digital information exclusively in complex, unreadable PDF formats without text-to-speech support.
(C) Mandating that disabled citizens physically visit municipal offices to use digital kiosks for all e-governance needs.
(D) Adhering to Web Content Accessibility Guidelines (WCAG) with screen-reader compatibility and scalable text options.

97. In urban data analytics, if a city administration uses data models to predict a severe traffic bottleneck and automatically recommends optimal diversion routes and signal timing changes, they are utilizing:
(A) Prescriptive Analytics
(B) Descriptive Analytics
(C) Retrospective Analytics
(D) Subjective Analytics

98. Consider the following capabilities of an Integrated Command and Control Centre (ICCC) implemented in smart cities:
1. Aggregation of video feeds from CCTV networks for surveillance and traffic monitoring.
2. Integration of GPS tracking systems for real-time monitoring of municipal solid waste vehicles.
3. Centralized coordination of emergency response systems during natural disasters.
4. Physical manufacturing of smart technological hardware components for export.

Which of the above statement(s) is/are correct regarding the functions of an ICCC?
(A) 1, 2 and 3
(B) 2, 3 and 4
(C) 1, 3 and 4
(D) 1, 2 and 4

99. The Sugamya Bharat Abhiyan (Accessible India Campaign), a flagship mission for universal accessibility, was officially launched nationwide in:
(A) December 2015
(B) August 2017
(C) January 2014
(D) October 2019

100. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): AI-based demand forecasting is a highly effective tool for smart electricity grid management.

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possible without needing adaptation.
(B) The design of specialized medical facilities and rehabilitation centers exclusively for persons with severe physical disabilities.
(C) The standardization of urban architecture and street furniture based solely on contemporary international aesthetic trends.
(D) The creation of segregated transport networks and dedicated lanes specifically isolated for the elderly and disabled.

50. Consider the following statements regarding the pillars of the Sugamya Bharat Abhiyan (Accessible India Campaign):
1. It aims to enhance the accessibility of the built environment, particularly government offices and public buildings.
2. It includes a specific vertical focused on making the transportation system accessible, including airports, railway stations, and buses.
3. Information and Communication Technology (ICT) ecosystem accessibility is excluded from the campaign to focus purely on physical infrastructure.
4. It mandates the conduct of access audits for public structures to identify barriers.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

51. The legislative framework providing a rights-based approach to disability in India is the:
(A) Rights of Persons with Disabilities (RPWD) Act, 2016
(B) Persons with Disabilities (Equal Opportunities) Act, 1995
(C) National Urban Transport Policy, 2006
(D) Model Town and Country Planning Act, 1960

52. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Tactile paving is an essential barrier-free design element implemented on footpaths and transit stations.
Reason (R): Tactile paving provides crucial physical feedback to visually impaired individuals, guiding them along safe routes and warning them of hazards like stairs or road edges.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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53. According to the standard methodology under the Sugamya Bharat Abhiyan, the primary purpose of an access audit on municipal buildings is:
(A) Evaluating the total financial expenditure on the building's aesthetic facade and architectural ornamentation.
(B) Identifying physical barriers and non-compliance with standards to generate a comprehensive retrofitting action plan.
(C) Assessing the structural vulnerability of the government building to potential seismic activities and earthquakes.
(D) Determining the property tax valuation and market price of government assets located in the city center.

54. Match List I (Universal Design Principles) with List II (Corresponding Examples) and select the correct answer using the codes given below:
List I: (Universal Design Principles)
P. Equitable Use
Q. Flexibility in Use
R. Low Physical Effort
S. Size and Space for Approach and Use
List II: (Corresponding Examples)
1. A lever handle on a door instead of a round knob
2. A wide fare gate at a metro station accommodating wheelchair users
3. A website that can be navigated using either a mouse, keyboard, or voice commands
4. A main entrance that has zero steps and automated doors, usable identically by everyone

(A) P-4, Q-3, R-1, S-2
(B) P-3, Q-4, R-2, S-1
(C) P-4, Q-1, R-3, S-2
(D) P-2, Q-3, R-1, S-4

ensuring residential and commercial zones are separated by at least 2 kilometers.
(C) It involves designing the public realm to prioritize pedestrian and cyclist movement over private vehicles.
(D) It involves adjusting zoning regulations to permit higher density and mixed land uses in close proximity to the station.

107. The principle of establishing a "land use mix" in a TOD zone aims to achieve which primary urban planning outcome?
(A) Creating activity nodes with a balance of housing, jobs, and retail to ensure consistent, bidirectional transit ridership.
(B) Concentrating peak transit traffic into a single one-hour window in the morning to simplify transport scheduling.
(C) Forcing residents to travel long distances for daily amenities to generate more transit ticket sales.
(D) Eradicating all residential properties within the transit walkshed to maximize commercial office space.

108. A planner conducts an access audit of a commercial street and finds curbs at intersections and poles blocking the tactile path. Under the Sugamya Bharat guidelines, the planner's recommended immediate intervention should be:
(A) Relocating the commercial street and its businesses to a distant suburban zone.
(B) Banning visually impaired and wheelchair users from the commercial street for their own safety.
(C) Installing curb ramps, realigning tactile paths, and retrofitting traffic lights with audio signals.
(D) Constructing an expensive underground pedestrian tunnel that bypasses the street completely.

109. In the context of Transit Oriented Development, what is the core concept of "Value Capture Financing" (VCF)?
(A) A method of calculating the annual depreciation value of mass transit rolling stock.
(B) A private equity strategy to forcefully acquire subsidized agricultural land from farmers around new transit corridors.
(C) A strategy to increase mass transit fares exponentially during peak hours to maximize profit for operators.
(D) Recovering a portion of increased property values resulting from public infrastructure to help fund those investments.

110. Consider the following parameters associated with the "Smart People" and "Smart Economy" dimensions of a smart city:
1. High degree of digital literacy and lifelong learning programs.
2. An innovation-driven ecosystem supporting startups and incubators.
3. Exclusive reliance on unskilled manual labor for all municipal operations.
4. Platforms enabling active e-participation of citizens in municipal decision-making.

Which of the above statement(s) is/are correct?
(A) 1, 2 and 3
(B) 1, 2 and 4
(C) 2, 3 and 4
(D) 1, 3 and 4

111. Which of the seven principles of Universal Design dictates that the design should be useful and marketable to people with diverse abilities, ensuring no one is stigmatized by using it?
(A) Simple and Intuitive Use
(B) Equitable Use
(C) Low Physical Effort
(D) Size and Space for Approach and Use

112. Given below are two statements, one labeled as Assertion (A) and the other labeled as Reason (R):
Assertion (A): Incorporating distinct climate zoning and localized design guidance is a critical aspect of modern master planning in India.
Reason (R): Different climate zones (e.g., hot-dry vs. warm-humid) require different architectural responses regarding building spacing and fenestration to achieve thermal comfort.
Which of the following is correct?
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

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term maintenance costs and enhances the safety of public assets.

17. (A) It dynamically adjusts traffic signal timings based on real-time vehicle density analysis using AI-integrated camera feeds.
Intelligent traffic management systems utilize artificial intelligence to process visual data from cameras at intersections. Unlike traditional fixed-timer signals, these systems calculate real-time vehicle density and adjust green light durations accordingly. This dynamic response reduces idle time at junctions, improves the flow of traffic across the city network, and significantly lowers fuel consumption and vehicular emissions.

18. (A) P-2, Q-4, R-1, S-3
Artificial intelligence provides diverse tools for urban analysis and management. Natural language processing interprets sentiment from citizen feedback, while computer vision automates visual tasks like vehicle recognition. Agent-based modeling simulates the individual behaviors of pedestrians or commuters to optimize transit hubs. Predictive analytics forecasts future trends, such as energy demand, allowing for more efficient and proactive resource allocation.

19. (A) A virtual digital replica of physical city assets and processes used for scenario testing and simulation of urban interventions.
A digital twin is a sophisticated virtual model that mirrors the physical infrastructure and dynamics of a city. It integrates real-time data from IoT sensors to reflect current conditions accurately. Planners use these replicas to simulate the potential impacts of new policies or construction projects. This allows for risk-free experimentation and better-informed decision-making before any physical changes are implemented.

20. (A) 3, 2, 4, 1
Data maturity in urban governance begins with traditional paper-based manual record-keeping. The first step toward modernization involves adopting descriptive GIS mapping for spatial assets. Maturity increases with the integration of real-time dashboards through integrated command centers. The most advanced stage involves utilizing artificial intelligence for prescriptive analytics, which recommends optimal strategies based on complex data patterns and simulations.

21. (C) Statement I is true but Statement II is false.
Algorithmic bias is a significant ethical concern in urban planning, as AI can reinforce existing inequalities if trained on biased historical data. Conversely, platforms like the India Urban Data Exchange are built with robust privacy protocols. Their goal is to facilitate secure data sharing for public benefit rather than unauthorized monetization or the exploitation of sensitive citizen information.

22. (C) ABM relies on the assumption that all individuals in a city make identical, perfectly rational macro-level decisions.
Agent-based modeling is a powerful tool for simulating complex urban systems by representing individual actors with unique behavioral rules. Unlike traditional models that assume uniform rationality, these simulations account for the diverse and often irrational decisions of people. This makes them highly effective for studying traffic patterns, emergency evacuations, and other dynamic social interactions within a heterogeneous urban population.

23. (D) AI-based demand forecasting for utilities.
Using historical consumption patterns, weather forecasts, and socio-economic data to estimate future resource needs is a form of demand forecasting. This application of machine learning allows utility departments to predict seasonal fluctuations in water or energy requirements. By accurately anticipating these needs, municipalities can manage supply more effectively, reduce waste, and ensure the reliability of essential services.

24. (A) Computer vision with privacy-preserving ethical AI considerations.
Utilizing security cameras with algorithms to count people and analyze movement patterns is an application of computer vision. By automatically blurring faces, the system ensures that spatial data is collected without infringing on individual privacy. This approach allows planners to understand the usage of public spaces while adhering to ethical standards regarding the protection of personal identity.

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perspective, this cools the microclimate primarily through:

(A) Increasing the area's overall solar radiation absorption.

(B) Deflecting all wind patterns upwards into the stratosphere.

(C) Generating high-frequency thermal friction.

(D) Shading hard surfaces and active evapotranspiration.

120. A town planner adapts smart city interventions for a town in a tribal-dominated district. Which of the following technological approaches is most contextually appropriate and inclusive?

(A) Prioritizing predictive analytics for water supply and utilizing NLP for e-grievance services in local dialects.

(B) Deploying extremely complex, English-only digital kiosks that require high degrees of digital literacy for basic use.

(C) Mandating a massive transit-oriented development zone with luxury high-rises, ignoring local architecture.

(D) Installing expensive autonomous drone surveillance systems while ignoring basic solid waste and water infrastructures.

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ANSWERS

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1. (A) A city that uses digital technology and data analytics to optimize infrastructure and enhance the quality of life for its citizens.
The smart city concept integrates information and communication technologies to manage urban services efficiently and improve resident well-being. By utilizing real-time data and sensors, municipalities can monitor traffic, energy use, and water distribution. This approach focuses on sustainable urban development, technological innovation, and data-driven governance to solve complex modern infrastructure challenges effectively.

2. (B) 1, 3 and 4
Special Purpose Vehicles are established as limited companies under the Companies Act to ensure professional management. They are responsible for implementing, monitoring, and evaluating smart city projects. The board of directors includes representatives from state governments and urban local bodies to facilitate coordination. Unlike traditional departments, these entities operate with operational independence to achieve mission targets.

3. (A) Area Based Development (ABD)
Area Based Development is a strategic component focusing on specific urban zones rather than the entire city at once. It employs methods like retrofitting to improve existing infrastructure, redevelopment to replace old structures, or greenfield development to create new suburban hubs. This concentrated approach allows planners to create replicable models of urban excellence within a defined geographical area.

4. (A) Both A and R are true and R is the correct explanation of A.
Creating special purpose vehicles is mandatory to ensure professional management and financial autonomy in city development. These entities operate outside traditional bureaucratic structures to speed up project execution and encourage public-private partnerships. By focusing specifically on smart city proposals, they minimize administrative delays and create a more reliable environment for attracting significant private sector investment.

5. (B) A central nervous system integrating municipal services like waste, traffic, and emergency response through real-time data monitoring.
An Integrated Command and Control Centre serves as the technical backbone for modern urban management. It aggregates data from various sensors and departments to provide a holistic view of city operations. This enables administrators to coordinate emergency responses, optimize traffic flow, and monitor environmental parameters in real time, leading to more responsive and efficient municipal service delivery.

6. (A) P-2, Q-4, R-1, S-3
Modern urban infrastructure utilizes specialized technology for various utilities. SCADA systems are vital for detecting leaks in water management networks. Solid waste management benefits from RFID-tagged bins and route optimization to improve collection efficiency. Intelligent traffic systems manage vehicle flows, while e-grievance platforms enhance governance by providing accessible digital channels for citizens to report and resolve issues.

7. (D) It is a ranking system that evaluates cities based on economic and technological indicators alongside citizen perceptions of urban life quality.
The IMD World Smart City Index assesses global urban centers by combining objective data with subjective citizen feedback. It looks at how effectively technology addresses urban challenges and improves the daily lives of residents. By considering both economic capabilities and human-centric outcomes, the index provides a comprehensive measure of how “smart” and livable a city truly is.

8. (A) 3, 2, 1, 4
The Smart Cities Mission was launched in mid-2015 to transform urban landscapes. Shortly after, the Accessible India Campaign was

introduced in late 2015 to enhance physical and digital accessibility. The first edition of the Ease of Living Index was released in 2018. Finally, the India Urban Data Exchange platform was established to facilitate secure data sharing.

9. (C) Statement I is true but Statement II is false.
Fostering smart people involves promoting digital literacy, education, and innovation to empower citizens within a digital economy. However, performance indices like the Ease of Living Index do not impose rigid technological mandates. Instead, they provide a framework for cities to assess their performance and improve quality of life based on their specific local needs and demographic contexts.

10. (B) Open data platforms mandate the public disclosure of highly sensitive personal citizen data to ensure absolute municipal transparency.
Open data platforms are designed to share non-personal municipal datasets to encourage research, innovation, and evidence-based policymaking. While transparency is a core objective, these platforms strictly exclude sensitive personal information to protect citizen privacy. By providing access to transit or utility data, they enable start-ups and researchers to develop solutions for urban challenges without compromising individual security.

11. (A) A transition to dynamic, GIS-based spatial tools that integrate real-time data for the continuous monitoring of urban growth.
Transitioning to digital master plans replaces static, paper-based documents with dynamic GIS frameworks. These tools allow planners to integrate real-time data for continuous monitoring of land use and urban sprawl. Unlike traditional methods, digital plans can be updated frequently, providing a more accurate and responsive basis for decision-making and ensuring that urban development aligns with evolving needs.

12. (C) Localized spatial intervention to Pan-City infrastructure scaling.
Expanding a successful pilot project from a specific zone to the entire municipal area signifies a strategic shift. While area-based development focuses on concentrated improvements in a neighborhood, pan-city solutions apply technological benefits across the whole urban landscape. This process ensures that successful innovations, such as smart water metering, improve efficiency and service delivery for the entire population.

13. (D) An analytical approach that recommends optimal actions or strategies to achieve specific urban objectives and mitigate predicted issues.
Prescriptive analytics represents the highest level of data maturity in urban planning. It goes beyond describing the past or predicting the future by suggesting specific interventions to reach desired outcomes. By analyzing complex variables, these models help planners decide which actions will most effectively reduce congestion, manage energy loads, or improve water distribution in an increasingly complex city.

14. (B) 1, 2 and 3
Modern urban planning relies on high-velocity big data from various digital sources. Mobile network data provides insights into population mobility, while IoT sensors in utility networks offer real-time operational data. Social media geotagging helps understand public sentiment and spatial usage patterns. In contrast, traditional census data is collected at long intervals and lacks the real-time dynamism of big data.

15. (B) Convolutional Neural Networks (Computer Vision)
Convolutional Neural Networks are a specialized form of deep learning primarily used for analyzing visual imagery. In urban planning, they are employed to automate the classification of land cover and land use from high-resolution satellite photos. This computer vision technique enables planners to accurately map buildings, roads, and vegetation across large areas much faster than traditional manual digitization methods.

16. (A) Both A and R are true and R is the correct explanation of A.
Artificial intelligence significantly improves the maintenance of urban infrastructure by analyzing continuous data from various sensors. These algorithms identify subtle anomalies and patterns that indicate potential structural weaknesses or mechanical failures. By predicting problems before they escalate into major breakdowns, AI allows for proactive repairs, which reduces long-

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housing to ensure social equity and prevent displacement. However, mono-functional land uses, such as purely commercial zones, often lead to unbalanced ridership patterns with peak flows only during office hours. A diverse mix of land uses is necessary to ensure transit systems are utilized consistently throughout the day.

34. (C) Modern metro models in major Indian cities completely avoid using LVC, relying solely on international grants.
Land value capture is a vital financial tool used in many modern transit projects to recover infrastructure costs from the increased property values they create. Common mechanisms include betterment levies, impact fees, and the sale of premium development rights. Far from avoiding these tools, many Indian cities are increasingly integrating value capture strategies into their funding models for metro rail systems.

35. (A) Land use mix
Integrating residential, retail, office, and recreational spaces within a short distance of a transit station is the core of the land use mix principle. This strategy allows residents to fulfill most of their daily needs without relying on a private vehicle. By creating diverse activity nodes, planners reduce travel distances and encourage a more walkable and sustainable urban environment.

36. (D) Map the actual pedestrian network distance (network walkshed) rather than a simple Euclidean radius on the map.
When delineating a transit influence zone, a simple geometric circle often fails to account for physical barriers like rivers or highways. Planners should instead map the actual distance a pedestrian must travel along the street network to reach the station. This "network walkshed" provides a more realistic representation of accessibility and ensures that development regulations are applied accurately.

37. (B) Higher temperatures in urban areas compared to rural surroundings due to human activities and heat-absorbing infrastructure.
The urban heat island effect is a phenomenon where cities experience significantly higher ambient temperatures than their rural surroundings. This occurs because urban materials like concrete and asphalt absorb and retain solar heat, while human activities and machinery generate additional thermal energy. The lack of vegetation in dense urban environments further limits the natural cooling effects of shade and evapotranspiration.

38. (A) 1 and 2
Mitigating the urban heat island effect requires strategies that reduce heat absorption and enhance natural cooling. Enhancing the albedo of surfaces through cool roofs and pavements reflects solar radiation back into the atmosphere. Increasing the urban tree canopy provides essential shade and cools the air through evapotranspiration. These interventions are far more effective than using dark materials that trap heat.

39. (D) A measure of surface reflectivity, indicating the fraction of solar energy reflected back into the atmosphere.
Albedo is a critical factor in the thermal performance of urban environments. It measures how much solar radiation a surface reflects rather than absorbs. Surfaces with high albedo, such as white roofs, stay much cooler by reflecting a large portion of sunlight. Increasing the overall albedo of a city through cool pavements and light-colored buildings is a primary strategy for cooling.

40. (A) Both A and R are true and R is the correct explanation of A.
Passive solar design is a fundamental strategy for creating climate-resilient buildings and street layouts. By carefully orienting structures and windows, planners can maximize natural lighting and cross-ventilation. This approach significantly reduces the need for mechanical cooling and artificial lighting. Proper orientation also helps minimize direct solar heat gain during peak hours, improving the overall energy efficiency of the urban fabric.

41. (B) Integration of rainwater harvesting, wastewater reuse, and protection of catchment zones within the city master plan.
Sustainable water planning for drought resilience involves a multifaceted approach to managing local water resources. Protecting natural catchment areas and implementing

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25. (B) High-density, mixed-use development centered around a mass transit station designed to maximize walking and transit ridership.
Transit Oriented Development is a planning strategy that creates vibrant, compact neighborhoods around high-capacity transit nodes. It prioritizes pedestrian accessibility and high-density construction to encourage the use of public transportation. By integrating residential, commercial, and civic spaces within walking distance of stations, this model reduces reliance on private vehicles, mitigates urban sprawl, and promotes more sustainable urban growth.

26. (B) 1, 3 and 4
Transit-oriented development nodes are classified by scale and function, ranging from neighborhood to regional contexts. While neighborhood nodes focus on community-level amenities and fine-grained street networks, regional nodes are designed for high-intensity commercial activities. National policies advocate for varying development intensities across this hierarchy, ensuring that each transit station supports the specific socio-economic needs of its surrounding area.

27. (B) 500m to 800m
The influence zone of a transit-oriented development is primarily defined by the distance a person can comfortably walk to reach a station. Generally, this walkshed is delineated within a radial distance of 500 to 800 meters. Concentrating high-density buildings and essential services within this zone ensures that a large number of people can access mass transit without needing vehicles.

28. (A) Both A and R are true and R is the correct explanation of A.
Reducing minimum parking requirements in transit-oriented zones is a deliberate strategy to discourage personal vehicle ownership and use. When cheap and abundant parking is restricted near stations, commuters are more likely to choose public transportation. This policy also allows for higher land-use efficiency, as space previously dedicated to cars can be repurposed for residential or commercial development.

29. (D) Providing premium Floor Area Ratio (FAR) and promoting mixed land use to densify the corridor and capture land value.
Policy frameworks for metro corridors focus on densifying the areas immediately surrounding transit stations. By providing additional development rights through premium Floor Area Ratio, planners encourage the construction of high-rise buildings. Promoting mixed land use within these corridors ensures that residential and commercial activities are integrated, which maximizes ridership and helps the city recover infrastructure costs through land value.

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30. (A) P-3, Q-1, R-4, S-2
Effective transit-oriented development relies on several integrated planning principles. Walkability is enhanced through shaded, barrier-free footpaths, while densification is achieved by allowing higher floor area ratios near stations. A mix of diverse land uses ensures active streets throughout the day. Finally, connectivity is fostered through a dense network of streets that provide easy access for pedestrians and cyclists.

31. (B) Densities should be significantly higher within the TOD influence zone compared to the rest of the city to support ridership.
Standard planning guidelines for transit-oriented development mandate higher population and job densities within the influence zone of mass transit stations. This concentration of people ensures a steady and consistent flow of passengers, which is essential for the financial viability of expensive transit systems. High-density zoning near stations also helps curb urban sprawl by focusing growth in accessible areas.

32. (B) 1, 3, 4, 2
Station area planning begins by delineating the influence zone based on walking distances to the transit node. Planners then conduct a baseline analysis of the existing land use, mobility networks, and current densities. Based on these findings, they propose new mixed-use zoning and infrastructure upgrades. The final stage involves implementing financial mechanisms like land value capture to fund these improvements.

33. (C) Statement I is true but Statement II is false.
Many transit-oriented development policies link density incentives to the provision of affordable

regardless of age or physical ability. Rather than creating specialized or segregated solutions for people with disabilities, it promotes a unified approach that benefits all users. This principle ensures that public infrastructure, such as transit stations and government offices, is inherently inclusive and easy to use for everyone.

50. (B) 1, 2 and 4
The Sugamya Bharat Abhiyan is built on pillars that address accessibility in the built environment, transportation, and information systems. It mandates access audits of public buildings to identify and remove physical barriers. While the transportation pillar focuses on making airports and buses accessible, the information pillar specifically includes digital and communication technology to ensure comprehensive inclusion for persons with disabilities.

51. (A) Rights of Persons with Disabilities (RPWD) Act, 2016
The RPWD Act of 2016 represents a significant shift toward a rights-based approach for persons with disabilities in India. It expanded the list of recognized disabilities and established mandatory standards for accessibility in both the physical and digital environments. This legislation provides a strong legal framework that empowers individuals and holds public and private entities accountable for ensuring barrier-free access.

52. (A) Both A and R are true and R is the correct explanation of A.
Tactile paving is a vital component of barrier-free design that uses textured surfaces to communicate information to visually impaired pedestrians. These patterns indicate safe paths and warn users of approaching hazards like curbs, stairs, or road edges. By providing distinct physical cues through the feet or a cane, tactile paving allows individuals to navigate urban environments with greater independence and safety.

53. (B) Identifying physical barriers and non-compliance with standards to generate a comprehensive retrofitting action plan.
Access audits are technical assessments conducted to evaluate how well a building complies with accessibility standards. The process involves identifying obstacles that prevent persons with disabilities from using facilities comfortably. The findings are then used to develop a detailed retrofitting plan, which may include installing ramps, widening doorways, or adding accessible signage, ensuring the environment becomes truly inclusive for everyone.

54. (A) P-4, Q-3, R-1, S-2
Universal design principles guide the creation of inclusive environments through various functional features. Equitable use ensures identical entrances for everyone, while flexibility allows for multiple ways to interact with systems. Low physical effort is achieved through easy-to-use hardware like lever handles. Finally, providing adequate size and space ensures that all users, including those with mobility aids, can comfortably approach and use facilities.

55. (D) The NBC 2016 contains a dedicated section detailing spatial requirements, ramps, and signage for barrier-free environments.
The National Building Code of 2016 includes comprehensive guidelines for creating barrier-free built environments. It provides detailed technical specifications for essential features such as ramp gradients, corridor widths, and accessible signage. These standards are mandatory for both public and private developments, ensuring that new constructions are designed from the outset to be usable by people with a wide range of abilities.

56. (3, 1, 2, 4)
The evolution of accessibility framework in India began with the PWD Act of 1995. This was followed by the launch of the Sugamya Bharat Abhiyan in late 2015 to accelerate the creation of accessible infrastructure. The comprehensive RPWD Act was enacted in 2016, and the National Building Code was revised the same year to incorporate advanced barrier-free design standards.

57. (C) Statement I is true but Statement II is false.
Inclusive planning requires the active involvement of disabled persons' organizations to ensure that master plans address the actual needs of the community. However, the Sugamya Bharat portal is not just for general utility bills. It is a dedicated platform for reporting accessibility barriers and monitoring the progress of the campaign,

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mandatory rainwater harvesting help recharge groundwater levels. Additionally, treating and reusing wastewater for non-potable purposes reduces the demand on primary water sources. These strategies ensure a more reliable and decentralized water supply system that can withstand periods of low rainfall.

42. (A) P-3, Q-1, R-4, S-2
Climate-responsive planning employs various specialized strategies to address different environmental challenges. Freeboard protects buildings from flooding by elevating them above expected water levels. Cool pavements mitigate the heat island effect by reflecting solar radiation. Decentralized storage enhances drought resilience by securing local water supplies. Finally, wind corridors in the urban layout improve natural ventilation, cooling the city through enhanced airflow.

43. (A) Strategic ecological setbacks along rivers and water bodies act as buffers that absorb floodwaters and prevent structural damage.
Planning for flood resilience involves maintaining natural buffers and avoiding high-density development in vulnerable areas. Ecological setbacks along water bodies allow rivers to expand safely during heavy rainfall without damaging buildings. These green zones act as sponges that absorb excess water. In contrast, channelizing streams into narrow concrete drains often worsens flash flooding by increasing the velocity of the runoff.

44. (A) 2, 4, 1, 3
Formulating a net-zero roadmap begins with establishing a baseline inventory of current greenhouse gas emissions. Planners then set specific, time-bound reduction targets to guide the process. Following this, various low-carbon interventions, such as renewable energy projects and transit-oriented development, are implemented. The final step involves continuous monitoring and verification to ensure that emission reductions are being achieved as planned.

45. (D) Statement I is false but Statement II is true.
The National Mission for Sustainable Habitat is designed to make cities more climate-resilient by focusing on sustainable urban systems. It prioritizes energy efficiency in buildings, effective solid waste management, and the promotion of public transportation over motorized personal vehicles. These efforts aim to reduce the carbon footprint of urban areas while improving the overall environmental quality and sustainability of the habitat.

46. (C) Zoning mandates identical building envelopes and structural materials be used universally across all Indian cities for aesthetics.
Climate-responsive design requires architectural responses tailored to the specific environmental conditions of each zone. The National Building Code recognizes several distinct climate zones, each necessitating different strategies for shading, ventilation, and material use. Universal mandates for identical building envelopes are inappropriate, as a design suitable for a cold mountain region would be highly inefficient in a hot and humid coastal city.

47. (B) Enhance natural ventilation and localized cooling through wind tunneling.
In hot and arid climates, street orientation and building heights are crucial for managing the microclimate. By aligning streets with prevailing winds and staggering building heights, planners can encourage airflow through the urban fabric. This creates a wind-tunneling effect that enhances natural ventilation and provides localized cooling. Such passive strategies are essential for reducing the thermal stress on pedestrians and buildings.

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48. (D) Integration of climate change risk and flood resilience into city master plans.
Incorporating stricter setbacks and elevated plinths in coastal areas is a direct response to the risks posed by rising sea levels and flooding. These regulatory measures ensure that new developments are better protected from extreme weather events. By integrating these resilience strategies into the decadal master plan, a city can systematically reduce its long-term vulnerability to the impacts of climate change.

49. (A) Designing environments and products to be usable by all people to the greatest extent possible without needing adaptation.
Universal design focuses on creating spaces and products that are accessible to everyone,

113. What is a key objective of state-level urban infrastructure schemes when integrated with smart city principles?
(A) Upgrading core urban infrastructure in non-mission cities using data-driven planning and modern execution models.
(B) Strictly de-urbanizing secondary cities and shifting urban populations back to rural village clusters.
(C) Permanently halting the construction of any new public housing within municipal limits.
(D) Transferring the administrative control of all urban local bodies directly to the Central Government departments.

114. Match List I (Big Data Source Types) with List II (Urban Planning Utility) and select the correct answer using the codes given below:
List I: (Big Data Source Types)
P. Mobile Call Detail Records (CDR)
Q. IoT Smart Bins
R. Social Media Geotags
S. Smart Water Meters
List II: (Urban Planning Utility)
1. Analyzing citizen movement trajectories and transit demand
2. Tracking consumer water consumption behavior and leakages
3. Optimizing municipal solid waste collection schedules
4. Mapping informal recreational usage and public sentiment heatmaps
(A) P-1, Q-3, R-4, S-2
(B) P-3, Q-1, R-2, S-4
(C) P-1, Q-4, R-3, S-2
(D) P-2, Q-3, R-4, S-1

115. Which of the following statements is correct regarding the technical standards for a barrier-free ramp as per Indian guidelines?
(A) Providing handrails on both sides at two distinct height levels to assist users of varying heights and abilities.
(B) Designing a ramp with a steep gradient of 1:5 to minimize the total floor space it occupies in the building.
(C) Constructing ramps using highly polished, smooth marble surfaces to reduce friction for manual wheelchair users.
(D) Providing ramps only at secondary rear entrances of public buildings while leaving the main entrance stepped.

116. Identify the INCORRECT pair regarding advanced technology applications in planning:
(A) Agent-Based Modelling - Simulating dynamic interactions of multiple individuals within an urban environment.
(B) Predictive Analytics - Using machine learning to forecast traffic congestion based on historical data.
(C) Computer Vision - Utilizing algorithms to identify and count vehicles from traffic camera feeds.
(D) Digital Twin - A static 2D paper map depicting historical land ownership.

117. Consider the following statements regarding urban technologies:
Statement I: Natural Language Processing (NLP) is used to interpret and analyze textual data, making it ideal for automated grievance redressal chatbots.
Statement II: Computer Vision is used to interpret visual data, making it ideal for tracking urban flooding extent via drone imagery.
Which of the following is correct?
(A) Both Statement I and Statement II are true.
(B) Both Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

118. Identify the INCORRECT statement regarding smart transport features in urban areas.
(A) Smart transport systems integrate real-time passenger information displays at transit shelters.
(B) Intelligent Traffic Management Systems (ITMS) use sensors to prioritize emergency vehicles at intersections.
(C) Smart transport models focus entirely on expanding unlimited free parking spaces to encourage private vehicle ownership.
(D) Smart parking solutions use IoT sensors to guide drivers to the nearest available parking spot.

119. A planner implements an extensive urban greening project, planting shade-bearing trees along arterial roads. From a climate responsive

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serving as a tool for public accountability and infrastructure improvement.

58. (B) The campaign requires that all public transport vehicles completely prohibit non-disabled passengers to reserve capacity.
Making public transport accessible involves procuring specialized vehicles like low-floor buses and retrofitting railway stations with lifts and ramps. These improvements are designed to be inclusive, allowing everyone to use the system together rather than segregating passengers. The goal is to ensure that elderly people and those with disabilities can travel with the same dignity and convenience as any other citizen.

59. (A) Information and Communication Technology (ICT) Ecosystem Accessibility
Enhancing website compatibility with screen readers and providing high-contrast modes are key strategies for making digital services accessible. This falls under the Information and Communication Technology pillar of the Sugamya Bharat Abhiyan. By ensuring that e-governance platforms are usable by people with visual or cognitive impairments, municipalities promote digital inclusion and ensure that all citizens can access essential public services.

60. (C) Inclusive planning process and participatory design.
Inviting diverse groups, such as wheelchair users and senior citizens, to test proposed designs is a hallmark of participatory planning. This process ensures that the needs of vulnerable populations are directly incorporated into the redevelopment of public spaces. By engaging with actual users during the design phase, planners can identify potential barriers early and create more inclusive, functional, and equitable streetscapes.

61. (D) An open-source platform for the secure and managed exchange of data among smart city departments and external entities.
The India Urban Data Exchange is a specialized platform designed to break down data silos within municipal administrations. It allows different departments and external partners to share data securely through standardized protocols. By facilitating this exchange, the platform enables the development of innovative urban solutions and data-driven policies that can improve services like traffic management, waste collection, and environmental monitoring.

62. (A) 1, 2 and 3
The Ease of Living Index is a comprehensive framework used to evaluate the performance of Indian cities across dimensions of sustainability, economic ability, and overall quality of life. It provides valuable insights into how effectively urban policies are achieving mission goals. The index is not restricted to mega-cities; it assesses a wide range of urban areas to promote competitive federalism.

63. (B) The Chief Executive Officer (CEO)
The Chief Executive Officer is the operational head of a Smart City Special Purpose Vehicle, responsible for the day-to-day execution of projects. Unlike political or purely administrative roles, the CEO focuses on technical implementation, financial management, and meeting mission deadlines. This leadership structure ensures that smart city proposals are executed with professional expertise and dedicated focus, bridging the gap between planning and reality.

64. (A) Both A and R are true and R is the correct explanation of A.
Pan-city solutions utilize advanced technology and data analytics to improve municipal services for the entire population of a city. While area-based developments are localized, pan-city projects like intelligent traffic systems or smart water grids provide broad-scale benefits. These interventions are designed to modernize urban operations across the entire municipal boundary, making the city more efficient, responsive, and livable for all.

65. (A) Heritage and pilgrimage tourism management.
Utilizing integrated command centers for crowd management and emergency response in religious corridors is a specialized application of smart technology. In heritage and pilgrimage cities, these systems help manage massive influxes of visitors, ensuring safety and improving the overall tourism experience. By monitoring real-time data from various sources, administrators can prevent accidents, manage traffic, and provide better services during major festivals.

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developments are naturally comfortable and energy-efficient. This approach significantly reduces the long-term cooling costs and environmental impact of buildings.

113. (A) Upgrading core urban infrastructure in non-mission cities using data-driven planning and modern execution models.
State-level urban schemes often aim to extend the benefits of smart city principles to a wider range of towns. This involves using modern data-driven tools and professional execution models to upgrade essential infrastructure like water supply and roads. By adopting these advanced methods, smaller cities can improve their service delivery and resilience, ensuring that the entire urban network of the state moves toward modernization and sustainability.

114. (A) P-1, Q-3, R-4, S-2
Different types of big data provide unique insights for urban management. Mobile records help planners understand population mobility, while smart meters track consumption patterns and detect leaks. Social media data can be used to map public sentiment and the informal use of urban spaces. Finally, IoT sensors in waste bins allow for the optimization of collection routes, leading to more efficient and cost-effective municipal operations.

115. (A) Providing handrails on both sides at two distinct height levels to assist users of varying heights and abilities.
Technical standards for accessible ramps require several features to ensure safety and usability. Providing handrails at two different heights accommodates both adults and children, as well as people using wheelchairs. Additionally, ramps must have a gentle gradient and a slip-resistant surface. These details are critical for ensuring that people with mobility impairments can move safely and independently throughout the built environment.

116. (D) Digital Twin - A static 2D paper map depicting historical land ownership.
A digital twin is an advanced, dynamic virtual model of a city, not a static paper map. It integrates real-time data to simulate current and future conditions, making it a powerful tool for testing urban scenarios. In contrast, agent-based modeling, predictive analytics, and computer vision are all sophisticated AI-driven techniques used to simulate interactions, forecast trends, and analyze visual data for more effective urban planning and management.

117. (A) Both Statement I and Statement II are true.
Advanced technological tools are increasingly used to improve urban governance and disaster management. Natural language processing allows for the automated analysis of textual data, making it ideal for managing citizen grievances through digital platforms. Similarly, computer vision can process visual information from drones or cameras to monitor critical events like floods. These AI-driven applications enhance the speed and accuracy of municipal responses to various urban challenges.

118. (C) Smart transport models focus entirely on expanding unlimited free parking spaces to encourage private vehicle ownership.
Smart transport systems focus on improving mobility through technology rather than encouraging private vehicle use. They integrate features like real-time passenger information and intelligent traffic management to prioritize public transit and emergency services. Smart parking solutions help drivers find spots more efficiently, reducing congestion. Far from expanding unlimited free parking, modern transport models often manage parking supply to encourage the use of more sustainable transit options.

119. (D) Shading hard surfaces and active evapotranspiration.
Urban greening projects help cool the microclimate through two primary natural processes. Tree canopies provide shade, which prevents hard urban surfaces like roads and pavements from absorbing solar heat. Additionally, trees cool the surrounding air through evapotranspiration, where water evaporates from leaves. These biological functions are highly effective at reducing the urban heat island effect and improving the thermal comfort of the city for pedestrians.

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better-informed decisions regarding the design of public infrastructure.

74. (D) 1, 2, 3 and 4
Using machine learning for land use classification involves a systematic workflow. It starts with acquiring high-resolution satellite imagery, followed by creating training datasets through manual labeling. A classification model is then trained on this sample data to recognize different urban features. Finally, the trained model is applied to the entire dataset to autonomously generate comprehensive and accurate land use maps for planning.

75. (A) Analyzing text data from citizen feedback portals and social media to gauge public sentiment regarding services.
Natural language processing is a powerful tool for city administrations to understand public opinion. It automates the analysis of large volumes of text from feedback forms, emails, and social media posts. By identifying common themes and citizen sentiments, administrators can prioritize issues and improve municipal services. This technology also powers automated chatbots that provide quick and efficient responses to routine citizen inquiries.

76. (A) Both A and R are true and R is the correct explanation of A.
Concentrating residents and jobs near mass transit stations is essential for the economic success of modern transportation systems. High density ensures a large pool of potential passengers, creating the consistent, two-way travel patterns needed for high ridership. This steady footfall generates reliable farebox revenue, which helps cover the significant operational and maintenance costs of high-capacity metro and bus systems.

77. (D) Optimize route alignments, frequencies, and fleet allocation based on predictive passenger demand.
Integrating data from smart ticketing and GPS systems allows transit planners to monitor ridership patterns in real time. This information is used to optimize bus routes and adjust service frequencies to match actual passenger demand. By making data-driven decisions about fleet allocation, municipalities can improve the efficiency of public transportation, reduce wait times, and provide a more reliable service for commuters.

78. (A) P-3, Q-1, R-2, S-4
Land value capture mechanisms are essential for funding transit infrastructure by tapping into the increased property values it generates. Betterment levies are one-time taxes on beneficiaries, while premium floor area ratios charge developers for higher density. Tax increment financing uses projected revenue increases to fund current projects. Finally, taxing vacant land in transit zones encourages densification and discourages speculative holding of valuable urban property.

79. (B) Limiting the supply and increasing the cost of parking discourages private vehicle reliance, incentivizing transit use.
Adopting reduced minimum parking requirements is a key strategy for promoting transit-oriented development. When parking is limited and more expensive, the incentive to use private cars decreases. This encourages people to utilize the adjacent mass transit system. Additionally, reducing the land area dedicated to parking allows for higher-density development and more pedestrian-friendly environments, which further supports sustainable urban growth and transit ridership.

80. (D) Regional Node - Connects major inter-city transit hubs with high-intensity mixed commercial and retail land uses.
Regional nodes in transit-oriented development are strategically located at the intersection of major transit lines and inter-city hubs. These nodes are designed to support high-intensity commercial and retail activities, serving as significant economic centers for the entire region. Unlike smaller neighborhood nodes, regional hubs accommodate large volumes of commuters and visitors, integrating diverse land uses to maximize transit connectivity and economic productivity.

81. (D) Statement I is false but Statement II is true.
Predictive maintenance using artificial intelligence requires continuous, real-time data from sensors to identify emerging problems before failures occur. On the social side, incorporating affordable housing mandates into transit-

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97. (A) Prescriptive Analytics
When a system uses data to predict a future problem and automatically suggests the best course of action to resolve it, it is performing prescriptive analytics. This advanced form of data analysis helps city administrators make optimal decisions in real time. In traffic management, it allows for proactive adjustments to signal timings and diversions, minimizing congestion before it severely affects the urban network.

98. (A) 1, 2 and 3
Integrated Command and Control Centres function as centralized hubs for urban management. They coordinate various smart services, including video surveillance, real-time tracking of waste collection vehicles, and emergency response systems. By aggregating data from these diverse sources, the centers provide administrators with a holistic view of the city, enabling more efficient service delivery and faster response times during disasters and daily operations.

99. (A) December 2015
The Sugamya Bharat Abhiyan was launched nationwide in December 2015 as a flagship campaign to create a truly accessible environment for persons with disabilities. The initiative focuses on three key areas: the built environment, transportation, and information and communication technology. Since its inception, the mission has driven significant improvements in the accessibility of public buildings, airports, railway stations, and digital government platforms across India.

100. (A) Both A and R are true and R is the correct explanation of A.
Artificial intelligence is a powerful tool for managing smart electricity grids by providing highly accurate demand forecasts. By analyzing historical consumption patterns and weather data, these models can predict when peak demand will occur. This information allows utility companies to balance the supply and prevent grid failures. Proactive management also facilitates the integration of intermittent renewable energy sources, making the entire power system more efficient.

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101. (B) National Mission for Sustainable Habitat (NMSH) and National Transit Oriented Development (TOD) Policy.
Integrating sustainable building practices with high-density development near transit hubs aligns with several national urban policies. The National Mission for Sustainable Habitat promotes environmental efficiency in cities, while the National TOD Policy encourages compact, mixed-use growth around mass transit. Together, these frameworks guide cities toward a more sustainable and equitable urban future, reducing carbon emissions and improving accessibility for all residents.

102. (A) P-2, Q-1, R-4, S-3
The National Building Code of 2016 provides precise technical specifications to ensure that the built environment is accessible to everyone. These include a minimum ramp width of 1200 mm and a maximum gradient of 1:12. Handrails must be positioned between 760 and 900 mm in height to provide proper support. Additionally, accessible doors must have a clear opening width of at least 900 mm.

103. (D) Institutionalizing learnings, scaling pilots to pan-city levels, and integrating ICCCs into daily municipal operations.
The post-mission roadmap for India's Smart Cities focuses on ensuring the long-term sustainability of project outcomes. This involves scaling successful pilot projects to benefit the entire city and making integrated command centers a permanent part of municipal administration. By institutionalizing these learnings, cities can continue to innovate and improve service delivery, ensuring that the smart city framework leads to lasting urban transformation.

104. (A) Smart Environment - Implementing air quality sensors linked to predictive analytical dashboards for city-wide monitoring.
The smart environment dimension involves using technology to monitor and protect the city's ecological health. Implementing networks of air quality sensors provides real-time data on pollution levels, which is then analyzed to identify trends and predict potential health risks. This data-driven approach allows for more effective environmental management and informs urban policies aimed at reducing

better monitoring and leak detection. Similarly, expanding sewage treatment capacity enables the reuse of wastewater, reducing the strain on fresh water sources. These interventions are essential for building urban resilience against climate-related challenges like droughts and water scarcity.

90. (A) P-2, Q-1, R-3, S-4
Barrier-free design elements are tailored to the needs of specific groups to ensure universal accessibility. Tactile blocks warn visually impaired people of potential hazards, while auditory signals help them navigate intersections safely. Properly graded ramps are essential for wheelchair users to access buildings. Additionally, lowered counters in public offices ensure that people with locomotor disabilities or short stature can interact comfortably with service providers.

91. (A) Capturing prevailing summer breezes by using operable windows placed on opposite walls to facilitate cross-ventilation.
Orienting buildings to capture prevailing winds is a fundamental principle of passive cooling and natural ventilation. By placing windows strategically to allow air to flow through the structure, planners can maintain comfortable indoor environments without relying heavily on mechanical cooling. This cross-ventilation not only saves energy but also improves indoor air quality, making buildings more sustainable and healthier for their occupants.

92. (C) Simple and Intuitive Use - Use of the design requires high technical expertise and complex maneuvering.
The "Simple and Intuitive Use" principle of universal design states that a product or environment should be easy to understand, regardless of the user's experience or knowledge. Designs that require high technical expertise or complex maneuvers are not considered universal. True universal design eliminates unnecessary complexity and provides clear, easy-to-follow instructions, ensuring that everyone can use the system efficiently and without frustration.

93. (C) Statement I is true but Statement II is false.
Drought resilience is strengthened by decentralized water storage systems like rejuvenated lakes and aquifer recharge structures, which capture and store local rainfall. In contrast, cool roofs must have a high albedo to reflect solar radiation away from the building. Materials with low albedo absorb heat, which increases cooling loads and worsens the urban heat island effect during hot summer months.

94. (C) Private commercial establishments providing public services are permanently exempt from all national accessibility norms.
The RPWD Act of 2016 mandates accessibility standards for all public buildings and services, including those provided by the private sector. Establishments that serve the public, such as banks, hospitals, and shopping malls, must comply with national accessibility norms. The law sets specific time limits for making existing structures barrier-free, ensuring that people with disabilities have equitable access to all aspects of urban life.

95. (B) Reflecting more solar radiation and absorbing less heat, thereby lowering surface and ambient air temperature.
Cool pavement technology addresses the urban heat island effect by changing how street surfaces interact with sunlight. These pavements are designed to have higher solar reflectance, which means they absorb less thermal energy. By keeping the ground surface cooler, they also reduce the ambient air temperature above them. This simple technological shift can significantly improve pedestrian comfort and lower the cooling energy needs of nearby buildings.

96. (D) Adhering to Web Content Accessibility Guidelines (WCAG) with screen-reader compatibility and scalable text options.
Ensuring digital services are truly inclusive requires following international web accessibility standards. Adhering to guidelines such as WCAG ensures that websites are compatible with assistive technologies like screen readers. Features like scalable text and high-contrast modes help people with visual or cognitive impairments. By making e-governance platforms accessible, cities ensure that all citizens, regardless of their physical abilities, can access public information and services.

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oriented policies is a critical strategy for urban equity. This ensure that low-income groups, who often rely most on public transportation, can live near transit hubs and benefit from improved access to jobs and services.

82. (C) AI relies on mathematical algorithms, making it inherently incapable of producing biased outcomes against minority groups.
Ethical considerations are paramount when applying artificial intelligence to urban planning. While AI uses mathematical algorithms, these systems can unintentionally learn and amplify systemic biases present in the training data. This can lead to discriminatory outcomes in areas like resource allocation or infrastructure development. Ensuring algorithmic transparency and accountability is essential for building public trust and achieving equitable results in automated governance.

83. (C) 2,500 sq.m
The total permitted built-up area is determined by multiplying the plot size by the combined floor area ratio. In this scenario, the base ratio of 1.5 and the premium ratio of 1.0 are added to give a total of 2.5. Multiplying this by the 1000 square meter plot area results in a maximum allowable construction of 2500 square meters.

84. (D) Calculating actual pedestrian network distance, considering physical barriers, intersection crossings, and street layouts.
Delineating an accurate walkshed for transit planning requires mapping the actual paths pedestrians must take. A simple radial circle fails to account for the real-world built environment. By considering street connectivity and physical obstacles, planners can identify which areas are truly within walking distance of a station. This network-based approach ensures that density incentives and infrastructure improvements are applied to the most accessible locations.

85. (B) Utilizing materials that reflect solar radiation and emit absorbed heat, keeping urban surfaces significantly cooler.
Albedo enhancement is a vital strategy for cooling urban environments. By using materials with high solar reflectance, such as light-colored pavements and cool roofs, cities can reduce the amount of heat they absorb during the day. These surfaces also emit absorbed heat more efficiently. This combination significantly lowers surface and ambient air temperatures, helping to mitigate the intense urban heat island effect.

86. (A) 1, 2 and 3
The National Mission for Sustainable Habitat promotes urban resilience through energy efficiency and sustainable systems. It emphasizes the development of comprehensive mobility plans that prioritize public and non-motorized transport. The mission also mandates the incorporation of energy-efficient building codes and improved solid waste management. These measures collectively aim to reduce the carbon footprint of cities while enhancing the overall quality of the urban environment.

87. (D) Establishing strategic canopy cover targets integrated with urban streetscapes, parks, and other public open spaces.
Strategic urban greening is a core component of climate-responsive master plans. Setting specific canopy cover targets for streets, parks, and open spaces helps lower city temperatures through shade and evapotranspiration. This natural cooling is a cost-effective way to reduce the heat island effect. Well-planned urban forestry also improves air quality and enhances the overall livability and aesthetic appeal of the urban environment.

88. (A) Both A and R are true and R is the correct explanation of A.
Maintaining a "freeboard" is a critical safety measure in flood-resilient infrastructure design. It involves elevating the habitable floors and critical assets of a building above the highest expected flood level. This extra height acts as a buffer against unpredictable weather events and potential data errors in flood modeling. By incorporating freeboard, planners can significantly reduce the risk of structural damage and ensure human safety.

89. (B) Augmenting water supply networks with SCADA and developing sewerage treatment plants for wastewater reuse.
Modern sustainable development schemes in India focus on improving the efficiency and resilience of core utilities. Implementing SCADA systems for water management allows for

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emissions and improving the overall health and well-being of residents.

105. (C) Statement I is true but Statement II is false.
A net-zero carbon roadmap is a comprehensive plan for eliminating urban emissions through clean energy and sustainable transit. However, the RPWD Act of 2016 did not reduce the number of recognized disabilities; it actually increased them from 7 to 21. This expansion ensures that a wider range of conditions are legally recognized, providing better protection and mandatory accessibility standards for more people with disabilities.

106. (B) It enforces strict land use segregation, ensuring residential and commercial zones are separated by at least 2 kilometers.
Station area planning in transit-oriented development focuses on integrating diverse activities rather than segregating them. The goal is to create mixed-use neighborhoods where people can live, work, and shop within walking distance of the station. This requires first-mile and last-mile connectivity and a public realm that prioritizes pedestrians. Separating residential and commercial zones by long distances would defeat the primary purpose of transit-oriented development.

107. (A) Creating activity nodes with a balance of housing, jobs, and retail to ensure consistent, bidirectional transit ridership.
Promoting a mix of land uses around transit stations creates vibrant activity nodes that are used throughout the day. By balancing residential, commercial, and retail spaces, planners ensure that people are traveling to and from the station in both directions. This consistent ridership makes the transit system more efficient and financially viable, while also creating more lively and safer street environments for the community.

108. (C) Installing curb ramps, realigning tactile paths, and retrofitting traffic lights with audio signals.
When an access audit identifies barriers, the immediate goal is to retrofit the environment to comply with accessibility standards. This includes installing curb ramps for wheelchair users and realigning tactile paths to provide clear guidance for the visually impaired. Adding auditory signals to traffic lights ensures that people can cross streets safely. These interventions remove physical obstacles and ensure that everyone can use public spaces independently.

109. (D) Recovering a portion of increased property values resulting from public infrastructure to help fund those investments.
Value capture financing is a strategy used by governments to fund public projects by capturing some of the economic benefit they create. When new transit infrastructure increases nearby land values, the government can recover a portion of this through specialized taxes or fees. This revenue is then reinvested into the transit system, creating a sustainable funding model that links infrastructure investment with urban economic growth.

110. (B) 1, 2 and 4
Developing "smart people" involves promoting digital literacy and creating platforms for active e-participation in governance. A "smart economy" is built on an innovation-driven ecosystem that supports startups and entrepreneurship. These dimensions are essential for ensuring that technological progress benefits all citizens and drives sustainable economic growth. Relying on unskilled manual labor for municipal tasks is contrary to the goals of modernization and efficiency in a smart city.

111. (B) Equitable Use
The principle of equitable use ensures that a design is useful and marketable to people with diverse abilities. It mandates that the design should provide the same means of use for all users—identical whenever possible, and equivalent when not. This approach avoids segregating or stigmatizing any group of users, ensuring that public infrastructure like transit stations and websites is truly inclusive and welcoming for everyone.

112. (A) Both A and R are true and R is the correct explanation of A.
Climate zoning is essential because different environmental conditions require unique urban planning responses. For instance, buildings in hot and dry climates need different spacing and shading than those in warm and humid regions. By incorporating localized design guidance into master plans, cities can ensure that new

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120. (A) Prioritizing predictive analytics for water supply and utilizing NLP for e-grievance services in local dialects.

Technological interventions must be tailored to the specific demographic and linguistic needs of a community to ensure inclusivity. In regions with diverse cultural backgrounds, using natural language processing for services in local dialects facilitates better engagement. Similarly, focusing on essential utilities like water supply through predictive analytics addresses core survival needs while bridging the digital divide effectively for all residents in the district.

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66. (A) P-2, Q-1, R-4, S-3
Smart governance utilizes digital platforms to improve service delivery and transparency. E-services allow citizens to handle administrative tasks like paying taxes online. Grievance redressal systems provide direct channels for reporting civic problems. Data dashboards give administrators visual insights into city performance, while open data portals share non-sensitive municipal datasets with the public to encourage innovation and evidence-based urban research.

67. (A) Fostering an environment conducive to innovation, entrepreneurship, e-commerce, and high-productivity employment.
A smart economy focuses on leveraging technology and innovation to drive urban growth and create high-quality jobs. This involves supporting a vibrant startup ecosystem, promoting digital commerce, and encouraging industries with high productivity. By creating a flexible and technologically advanced economic environment, smart cities can attract global investment, foster local entrepreneurship, and ensure long-term economic resilience and prosperity for their residents.

68. (D) Social Media feeds - Cadastral boundary demarcation for property rights
While social media feeds are valuable for gauging public sentiment and informal usage patterns, they are not suitable for technical tasks like cadastral mapping. Property boundaries require high-precision legal surveys and official land records. In contrast, big data sources like IoT sensors, mobile records, and smart card data are highly effective for monitoring environmental quality, travel flows, and transit usage patterns.

69. (C) Statement I is true but Statement II is false.
Smart waste management often uses sensors to monitor bin levels, which allows for more efficient collection routes and reduced fuel consumption. Far from isolating successful projects, the long-term goal of urban missions is to scale and replicate these pilots across other municipalities. Sharing learnings and best practices ensures that all cities can benefit from proven technological solutions for urban challenges.

70. (C) SCADA systems eliminate the need for physical water treatment infrastructure by virtually purifying the municipal supply.
SCADA systems provide powerful tools for the remote monitoring and automated control of water distribution networks. They allow operators to manage pressure levels, detect leaks rapidly, and optimize energy use at pumping stations. However, they do not replace the physical infrastructure needed for water treatment and purification. SCADA enhances the management of existing physical assets, making the entire water supply system more efficient.

71. (D) Agent-based modelling.
Agent-based modeling is the most appropriate tool for simulating how individuals make choices between different transport modes under various scenarios. By representing each commuter as an autonomous "agent" with specific preferences and constraints, planners can predict the likely impact of pricing changes or new service launches. This allows for more accurate forecasting of transit demand and better strategic planning for urban mobility.

72. (A) It allows planners to simulate systemic impacts on traffic and air quality in a virtual environment before implementation.
The primary advantage of a digital twin is its ability to simulate complex urban scenarios in a safe virtual environment. Planners can test the impact of pedestrianizing a major road or changing transit routes before committing any physical resources. This helps identify potential bottlenecks and unintended consequences, allowing for the refinement of plans and ensuring that physical interventions achieve their intended goals.

73. (B) A field of AI that enables computers to derive meaningful information from digital images, videos, and other visual inputs.
Computer vision is a transformative technology in urban planning that automates the analysis of visual data. It allows systems to recognize objects, count vehicles, and monitor pedestrian flows from camera feeds. This technology provides planners with precise, real-time data on how urban spaces are used, enabling more effective traffic management, improved public safety, and

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